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May 7, 2010 Volume 32 Number 10 www.processor.com



In This Issue...

COVER FOCUS

Koyo To Hardware I Ingrade Cuccos

Keys To Success

Are there ways you can improve your success rate when it comes to hardware upgrades, performance metrics, and more? We talked with industry experts to get their tips and advice.

keys to hardware opgrade Success	I
Social Media Successes	10
The Keys To Performance Metrics	12
Successful Risk Management	13



Thinking Green (Again)

With the economy back on the mend, many enterprises are starting to pay more attention to "green" computing and data centers. We outline ways your enterprise can be greener in several key areas. See page 26.

PHYSICAL INFRASTRUCTURE

- Product Spotlight:

Fire Protectionpage 1

■ Product Spotlight:

Data Center Furniturepage 1

As the temperatures rise outside, so does the need

■ Environmental monitoring has been the blessing and the bane of many industries, including large data centers and small server roomspage 19

NETWORKING & VPN

■ Product Spotlight:

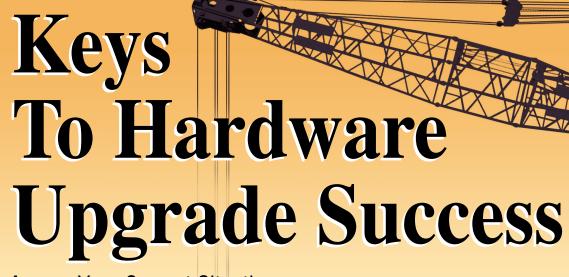
VPN & Remote Connectivity page 2

- Complex environments can be very delicate and sensitive to change, sometimes reacting unpredictably.

 Opnet offers products that help manage complex networks and applicationspage 22

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Assess Your Current Situation,
Do Your Due Diligence & Prepare For Setbacks

by Elizabeth Millard

EVERY DATA CENTER will go through major hardware upgrades with new servers, storage setups, network revamps, and infrastructure changes. Creating efficient systems that anticipate changes and guide the data center through transitions can help to reduce downtime and expenditures. Here are some top tips on how you can upgrade successfully and effectively.

Make Sure You're Ready

While planning for an upgrade, it's imperative to be aware of how the strategy will affect operations, notes Steve Suesens, category manager at Staples Technology

Key Points

- Determine whether the data center is ready for an upgrade by looking at power, cooling, and existing equipment.
- Have the right people at the ready, including vendors and outside experts if needed.
- Back out of the upgrade if it's not going as planned or too many problems are cropping up. You can always go back to the planning stage and find a better way to proceed later.

Solutions (www.staplestechnology solutions.com).

"It's important that data center managers are careful to factor in not only current computing needs but also future requirements," he says, advising managers to look at their network resources to make sure the network can support the speed of the new hardware without causing bottlenecks. Also, confirm that there's enough power and

cooling to support new hardware.

Plan, Plan, Plan

In terms of areas of focus when planning an upgrade, Ahmar Abbas, senior vice president of remote infrastructure management at *Go to Page 8*

Wind Power & Cooling

Can Harnessing The Wind Bring Down Cooling Costs?

by Elizabeth Millard

WIND POWER AND COOLING may not always be directly linked—it's likely that a data center manager wouldn't harness wind just to affect cooling costs, for example—but increasing overall efficiency in a center has a significant effect on cooling, notes Kris Domich, principal consultant at Dimension Data. By bringing down power costs, cooling expenses will follow, and that's important given the rise in power demand.

"If you look at the increase in power demand over just the last three to five years, it's staggering," says Domich. "The predictions about loads per rack for the future should give any data center manager reason to think about alternatives in terms of energy."

Power Station

Harnessing wind power isn't a widespread trend, but give it time as cooling costs increase and environmental awareness keeps growing. The data centers that have tapped into this type of alternate power are seeing strong returns.

"For quite some time, we'd been researching a way to reduce the environmental impact of running our data centers and Go to Page 8

Key Points

- Because renewable energy can increase overall data center efficiency, it can also boost cooling efficiency.
- Challenges abound when it comes to implementing wind power for a specific data center, and it's likely that managers will want to check with wind power producers rather than put their own equipment into place.
- Potential renewable energy regulations should cause data center managers to start thinking about alternative power and cooling strategies sooner rather than later.

Page 2 **Subscribe Today/Address Change Form** What type of subscription request is this? $\ \square$ New $\ \square$ Renewal $\ \square$ Cancel _____ Fax: (______) ____ Contact Name: Company Name: ____ Address: ___ City: _ Country: _____ ___ Web Address:_ Email: 1. What is the size of your company (how many employees)? □ 200 to 499 \square Less than 10 □ 500 to 999 □ 1,000+ □ 10 to 99 □ 100 to 199 2. How often do you purchase computer hardware/software? Quarterly □ Weekly ☐ Bi-weekly □ Annually ☐ Monthly □ No Involvement Also In This Issue... **STORAGE** ■ IT has had to implement separate storage solutions that can be difficult to manage and growpage 30 **SECURITY** ■ Palo Alto Networks' next-generation firewall technology enhances the protection against malicious applications hoping to reach your network page 25 ■ Liquid Machines' focus on information and integration has led to innovations in data protection...... page 32 A firewall is an important part of your security setup. but it will be less effective if not optimized properly. We'll help you make sure your firewall runs well page 33 & TELEPHONY ■ Product Spotlight: Email Security page 34 **CLIENTS** ■ The COBOL Application Platform Suite by Veryant is an easy, affordable system to implement, as demonstrated by Donatos Pizzeria's use page 36 ■ The print environment is one of those staid backwacloud, could shake things up page 37 ■ Enterprises have several options for reducing the maintenance portion of their software budgets. Deciding which option to use, however, takes some **DATA CENTER MANAGEMENT** goals can be difficult. Here are a few tips that IT can use Chances are you lock your doors so strangers can't simply walk in—it's a minimum security precaution. In aren't defined. Many more enterprises are letting employees work remotely. But before that can happen, IT mangers will need to ensure their enterprise's security and network connectivity are up to the task..... ■ Using a **colocation** provider's resources can offer enterprises a long list of benefits and cost-cutting opportunities. Here are some things to help you gauge whether a colocation provider is up to speed page 42

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for different data. Add reliability and backup requirements. and it's easy to end up with an expensive set of solutions

MESSAGING

- ters of IT. Yet one of today's hottest IT phenomena, the
- Aligning data center and IT goals with business
- the cloud, however, the minimum security precautions
- Here's a glance at what you can expect from the upcoming Uptime Institute Symposium 2010 .. page 43
- As the relationships between IT and business grow ever more complex in today's enterprises, the need for a coherent, transparent organization framework has become a top priority......page 44

HP To Buy Palm

In an unexpected move, HP announced that it intends to purchase beleaguered smartphone maker Palm for \$1.2 billion. Palm shares jumped some 28% on news of the acquisition, while HP shares dropped slightly, perhaps a reflection of the risk now being taken on by the larger company. HP officials note that Palm has created an innovative and effective mobile device platform, which the company hopes to leverage into increased market share in the smartphone arena.

Senator Calls For Federal Regulation Of Social Networking

Sen. Charles Schumer (D-NY) has released an open letter asking the Federal Trade Commission to regulate the privacy policies of social networking sites such as Facebook and Twitter. On his Web site, the senator writes that the FTC should set guidelines for how personal information can be "used and disseminated" by the social networking sites that host these accounts. Schumer's call to action comes after Facebook recently announced it will be releasing user information to third-party sites and made changes to its user privacy settings. For its part, Facebook has released a statement promising transparency to users and communication with Sen. Schumer's office.

AdMob Lists Top Apple- & **Android-Based Devices**

According to market research firm AdMob, the iPhone 3GS and Motorola Droid produce the most traffic on the mobile Web for their respective operating system platforms. Apple's iPhone 3GS snared 39% of the market from other Apple mobile device users, while the Android-based Droid produced 32% of

Apple's other popular mobile Web devices are the iPod touch, which drove 25% of online Apple traffic, and the iPhone 3G with 20%. The HTC Hero produced 19% of Android traffic, which was a big turnaround from September 2009 numbers that showed 96% of traffic stemmed from the device.

Twitter Buys Cloudhopper

Twitter announced that it has purchased Cloudhopper, a provider of text messaging infrastructure for mobile phones with which Twitter has reportedly been working for the past eight months. The acquisition will help Twitter better manage SMS text messages, a core component of its microblogging service. At least two Cloudhopper employees have joined Twitter: Kristin Kanaar, who served as director of carrier integration at Cloudhopper, and Joe Lauer, Cloudhopper's founder. The Cloudhopper deal follows Twitter's recent acquisition of Atebits, developer of Tweetie, a Twitter client for the iPhone.

Financial details of the Cloudhopper deal were not disclosed.

Department Of Homeland Security Fills Cybersecurity **Positions**

The Department of **Homeland Security** reportedly filled two

important cybersecurity positions last month. Bobbie Stempfley is the new director of the Department of Homeland Security National Cyber Security Division, and Randy Vickers was named as the director of the US-CERT (United States Computer Emergency Readiness Team). Vickers had

position is now permanent. The proposed budget for the National Cyber Security Division for next year is \$379 million, \$315 million of which is slated for US-CERT. The DHS plans to hire up to 1,000 cybersecurity professionals in the near future.

News

Gizmodo Could Be In Hot Water For iPhone Leak

California law enforcement officials are investigating the sale of an unreleased next-gen iPhone to the technology blog Gizmodo. Gizmodo claims that it purchased a prototype iPhone for \$5.000 from someone who found the device after it was left behind in a Silicon Valley bar. Gizmodo publicly tested the phone and posted related articles, although it has since returned the phone to Apple. Police are still unsure if Gizmodo has broken any laws; however, the Rapid Enforcement Allied Computer Team raided the home of Gizmodo editor Jason Chen to seize tech gadgets including an iPad, an iPhone, four computers, and two servers.

Prosecutors are currently deciding whether to file charges.

Apple To Purchase Mobile **Application Developer Siri**

Apple announced that it plans to buy mobile voice search developer Siri in order to develop a platform that integrates more mobile search capabilities, which industry insiders see as a move intended to let Apple

compete more directly with Google's Android platform, Billed as a virtual personal assistant, Siri's application technology lets you conduct voice-activated Web searches that generate results with the help of Citysearch. OpenTable, and Taxi Magic. Currently, Siri's applications are designed to run on the iPod touch and iPhone 3GS. Siri raised \$24 million from investors such as Menlo Ventures and Li Ka-Shing prior to the sale.

Microsoft Wins Software Piracy Case This information provides a quick glimpse of current and historical stock prices and trends for 13 major companies in the technology market.

Company **Symbol** Year Ago April 15 \$ April 29 \$ AMD AMD \$3.61 \$10.16 \$9.72 **4.33%** CA CA \$17.25 \$23.42 \$23.06 **▲** 1.56% Cisco Systems CSCO \$19.32 \$27.21 \$27.53 **▲** 1.18% Dell DELL \$11.62 \$16.86 \$16.65 **1.25%** GOOG \$395.97 Google \$595.30 \$532 **v** 10.63% ΗP HPQ \$35.98 \$54.23 \$52.88 **2.49%** IBM **IBM** \$103.21 \$130.89 \$130.46 **v** 0.33% Intel INTC \$15.78 \$24.22 \$23.49 ▼ 3.01% McAfee MFE \$37.54 \$40.76 \$39.53 **3.02% MSFT** \$20.26 \$30.87 \$31 ▲ 0.42% Microsoft **ORCL** \$19.34 \$26.20 \$25.97 **v** 0.88% Red Hat Software RHT \$17.27 \$31.67 \$30.78 **2.81%** Symantec SYMC \$17.25 \$16.98 \$17.14 ▲ 0.94%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions.

Software giant Microsoft has won a lawsuit against a Shanghai, China,-based insurance company, Dazhong Insurance, accused of pirating its software. A \$320,000 judgment was awarded to Microsoft when the Chinese firm was found guilty of running 450 illegal copies of Microsoft software, spanning nine different programs. Though not its first antipiracy victory, this marks Microsoft's first one going up against a large Chinese company for copyright infringement; in a similar but much smaller case, four people were charged last year with selling pirated versions of Windows XP in China. Copyright infringement remains a huge problem in China; the country's overall software piracy rate was 80% in 2008.

News

■ Verizon Meets Quarterly Expectations

Verizon Communications reported net income for Q1 2010 of \$400 million, which is down considerably from last year's \$1.6 billion because of one-time charges adding up to about \$1.2 billion. The charges stem from reduced tax benefits tied to retiree health care, the sale of some wireline assets, pension settlement costs, and the acquisition of Alltel that took place last year. Excluding the one-time charges, Verizon's earnings were 56 cents per share, which was right in line with analysts' expectations. The company pointed to growth in its wireless FIOS Internet service as a factor in its results.

Report: Beware Of Fake Antivirus Software

A recent report from Google shows that fake antivirus software accounts for about 15% of all malware. Google indicates that over the past 13 months, there were more than 11,000 domains that were responsible for distributing fake antivirus programs. Attacks from malicious antivirus software occurred most frequently from spam Web sites and those with online ads. Fake antivirus software was also responsible for 50% of all malware delivered over online ads, which Google says is a five-fold increase from a year ago. Google analyzed more than 240 million Web pages for the report.

■ LTE Set To Gain Market Share

The market for LTE (Long Term Evolution) networks will account for nearly \$11 billion by 2014, according to a report from Infonetics Research. There are 64 current LTE launches in the works with a number of new commitments expected. Infonetics expects that vendors will use a combination of microcells, picocells, and femtocells to support the LTE speeds of a 4G mobile network. The main LTE events are forecasted to start in the North America and Asia Pacific regions later this year, with a second wave in 2012 and 2013.

■ Tech Sector Workforce Dips In 2009

The technology industry lost about 4% of its 5.9 million workforce between 2008 and 2009, which translates to about 246,000 jobs, according to TechAmerica's recent "Cyberstates 2010: A Complete State-by-State Overview of the High-Technology Industry" report. That puts the industry slightly ahead of the 5.2% decline the private sector suffered for the same period. High-tech manufacturing employment declined 8.1%, for a total of 112,600 jobs. Among specific tech sectors, the electronic components industry saw the most jobs lost last year (37,100), and the space and defense systems manufacturing sector lost the least jobs (1,200). Overall, all nine tech manufacturing sectors lost jobs from 2008 to 2009, TechAmerica says. Even the software services sector, which had experienced five straight years of growth, lost 20,700 jobs in 2009. Wage-wise, the tech industry handed out an average salary of \$84,400 in 2008, 86% more than the average private sector wage of \$45,400.

I Enterprise SSD Usage To Skyrocket By 2015

A new "Enterprise SSDs: Technologies & Markets" report from Objective Analysis states that enterprise servers and storage systems will see their usage of solid-state drives increase by a factor of 50 in the coming five years. Objective Analysis predicts the enterprise SSD market will pull in about \$4 billion in revenue by 2015, 17 times greater than 2009. Further, the research firm is predicting enterprise SSD sales will increase at a 55% clip each year through 2015, reaching 4.1 million units vs. 150,000 in 2009. Usagewise, the report says that one SSD has initially been able to replace 10 hard disk drives. That 10:1 ratio should dip to 2.5:1 by 2015's end. Additionally, one SSD can generate 16,000 I/Ops vs. the 200 I/Ops generated by high-end 15,000rpm Fibre Channel drives.

Sony To End Floppy Disk Production

Sony announced recently that it will soon discontinue the production of 3.5-inch floppy disks. The company says that by the end of March 2011, it plans to end floppy disk sales in the Japanese market, where it currently holds a 70% share, and then gradually halt 3.5-inch floppy disk production completely. Almost 30 years after their 1981 introduction, floppy disks seem to be on their way out, having been rendered largely obsolete by other storage media such as USB flash drives and Internet-based storage; however, manufacturers such as Imation and Maxell still plan to offer floppy disks as long as there is still a market for them.

Use Of Online Personal Health Records Grows

People who use PHRs (personal health records)—Web sites where users can record their health information—are more likely to learn about health conditions and have a better understanding of their doctor's orders, according to a survey of 1,849 people conducted by the California Healthcare Foundation. The study found that 7% of adults surveyed use a PHR, more than double the number of users from two years ago. Of the respondents, 56% said using a PHR made them feel more knowledgeable about their health, while 52% said they had a better understanding of the care their doctors prescribed.

Apple Buys Chip-Maker Intrinsity

In what appears to be a bid to ensure that the company's mobile device processors are as fast and efficient as possible, Apple has purchased Intrinsity, an Austin, Texas,-based manufacturer of fast, low-power chips used mostly in mobile devices. Apple spent a reported \$121 million on the acquisition, about half of what it spent in 2008 when it purchased PA Semiconductor, another small manufacturer of speedy, power-efficient processors.

Study Examines Dueling Networks

A recent ABI Research report that gathered data on all 2G, 3G, and 4G data traffic for every type of mobile device that connects to cellular networks (cell phones, notebooks, etc.) has found that both Verizon Wireless and Sprint Nextel dealt with 16 billion more megabytes of data traffic than AT&T in 2009. Combined, Verizon and Sprint were responsible for 63% of the U.S. mobile traffic. AT&T has consistently maintained that it accounted for 50% of U.S. data traffic last year, that it has a larger proportion of smartphone users than Verizon, and that its iPhone customers use 10 times more data than the average cell phone user. ABI concedes that AT&T does support a larger number of 3G smartphone users than Verizon or Sprint, but those two providers support a greater number of notebook customers who connect to the cellular network. ABI also claims that by 2014, almost all carriers can expect to see their cellular network traffic balloon by 800%.

Spam Volumes

Google's hosted security and archiving service provider, Postini, reports that spam volumes in the first quarter of this year were about 6% higher than last year. Even after spam fighters managed to sideline 3FN, an ISP notorious for

supporting botnets, spam levels recovered in less than a month. The closure of another shady ISP, Real Host, only knocked spam on its heels for two days. Security firms managed to stem the tide of spam between Q4 2009 and Q1 2010, forcing levels down by 12%, but year over year, the 2010 numbers were higher. According to Trend Micro, the next front in the war against spam may be the individual PCs that make up the botnets.

■ Study Shows Lack Of Access Controls

Enterprises are having a difficult time keeping pace with access governance issues and access changes, and cloud computing is only exacerbating the problem, according to a study by Ponemon Institute. About 87% of survey respondents say their users have too much access to information systems—that's up 9% from 2008. When it comes to enforcing access policies, 59% of respondents say they either don't have or don't strictly enforce access policies, and 61% don't make sure that users have rights to view certain files before granting them access. About 73% of respondents say cloud computing makes it easier for users to circumvent access governance policies. More than 50% say they can't keep up with requests to change access rights.

Cell Phone Study Launched

More than 250,000 mobile phone users in Europe will be studied for the next 20 to 30 years in an attempt to gauge the impact of cell phone use on a person's health. The study, titled Cosmos, or the Cohort

Study on Mobile Communications, is being conducted by the Mobile Telecommunications and Health Research program and will look at people between the ages of 18 and 69 in five European countries. Experts have long debated the effects of cell phone use on individuals, including whether use can cause cancer, Alzheimer's, migraines, and other health-related issues.

White House Issues Updated Cybersecurity Reporting Rules

The White House has ordered government agencies to transition from a paper-based system for reporting and tracking cybersecurity to a real-time automated compliance system. Government agencies were informed of the new reporting instructions for the FISMA (Federal Information Security Management Act) and Agency Privacy Management through a memo from the Office of Management and Budget. The memo detailed the new three-tiered approach for FISMA reporting, which includes data feeds directly from security management tools, government-wide benchmarking on security posture, and agency-specific interviews. Cybersecurity monitoring will be done using CyberScope, an online security reporting tool.

2010 Venture Capital Investment

Although first-quarter venture capital investing in 2010 is slightly less than what it was in the fourth quarter of 2009, investments are slightly higher (13%) year over year. According to Dow Jones VentureSource, venture capitalists across the globe invested \$7 billion for companies in the United States, Europe, Canada, Israel, China, and India in the first quarter. U.S. companies accounted for the majority (\$4.7 billion) of investments. The driving force behind the investments seems to be life sciences, such as biotechnology, and green technologies, such as renewable energy, according to the National Venture Capital Association.

■ Microsoft Income Jumps 35%

Strong PC sales helped Microsoft report healthy results for its third quarter, with sales up 6% to \$14.5 billion. Profit rose 35% to \$4.01 billion, up from \$2.98 billion a year ago. Microsoft said strong demand for Windows 7 was the primary reason for the earnings jump. Windows sales rose to \$4.42 billion, up from \$3.45 billion during the same quarter last year. The company also said that PC sales were up 25% overall during the quarter, with consumer sales alone up 30%; business PC sales rose 14%. Microsoft said it deferred \$305 million in revenue related to Office as part of a program that will give current Office buyers a free upgrade to Office 2010 when it is released in June.

Upcoming IT Events

Are you looking to learn more about data center or IT topics? Network with some of your peers?

Consider joining a group of data center professionals. If you have an event you'd like listed, please send an email to feedback@processor.com.

- MAY -

AFCOM Dallas-Fort Worth May 11

Digital Realty Trust 908 Quality Way Richardson, Texas www.dfwafcom.org

AFCOM St. Louis "Gateway" Chapter

May 11

Schneider Electric Technology Center 807 Corporate Centre Drive O'Fallon, Mo.

www.afcom.com/afcomnew/stlouis.html

AITP Garden State

May 11

Jim Johnston's Steakhouse 58 Eisenhower Parkway Mountain Plaza Roseland, N.J.

tech.groups.yahoo.com/group /aitpgardenstatechapter

AITP Richmond

May 11 2015 Staples Mill Road Richmond, Va. www.aitprich.org

PASS Wisconsin SQL Server User's Group

May 11, 4:30 Microsoft Office 2176 Woodcrest Drive Green Bay, Wis. wisconsin.sqlpass.org

AITP San Diego

May 12, 5:30 p.m.

National University-Kearny Mesa Campus 3678 Aero Court San Diego, Calif.

sandiego.aitp.org • • • • • Greater Wheeling AITP

May 12 Wheeling, W.Va. www.aitp-wheeling.org

ISSA Central Pennsylvania

May 12
Harrisburg University
of Science and Technology
326 Market St.
Harrisburg, Pa.

centralpenn.issa.org ISSA New England

May 12 Weymouth, Mass. www.issa-ne.org

ISSA San Diego

May 12 www.sdissa.org

Southern New England SQL Server User's Group May 12

www.snessug.com

AITP Washington D.C. May 13, 6:30 p.m.

May 13, 6:30 p.m. Alfio's Restaurant 4515 Willard Ave. Chevy Chase, Md. aitpwashdc.ning.com

ISSA Northeast Ohio May 13

Cuyahoga County Library-Parma South 7335 Ridge Road Parma, Ohio www.neoissa.org

Sharepoint 2010

May 13, 8 a.m.
Platform Labs
1275 Kinnear Road
Columbus, Ohio
www.platformlab.org

SQL Server Society of Las Vegas

May 13
The Learning Center of Las Vegas
777 North Rainbow
Las Vegas, Nev.
sssolv.com

For more Upcoming IT Events, see page 10.

PRODUCT RELEASES

The *Processor* Product Releases section includes brief overviews of data center products.

All products listed have been released recently, so use this section to get up-to-date with what's new on the market and to find products you need.

Manufacturers:
Do you have a new product that data center/IT managers would be interested in learning about?
Send your press release or product information to press@processor.com.

CLIENTS

■ Cisco Data Center 3.0

Cisco announced updates to its Data Center 3.0 portfolio, most notably its Cisco Unified Computing System, which features more processor cores, better application performance, and a larger standard memory footprint. Other updates include the Nexus 2248 and Nexus 2232 fabric extenders, M2 B-Series and C-Series two-socket servers, Nexus 1010 Virtual Services Appliance, and MDS 9148 Multilayer Fabric Switch.

■ Clerity Universal Test Manager

Clerity announced that it has enhanced its Universal Test Manager, a tool that enables users to create, manage, and validate automated application test cases during large-scale mainframe migrations. Features include support for common green-screen VT100/220-terminal-based applications as well as testing methods for batch job output reports, submission results, and regression.

■ Eizo FlexScan LCD Monitors

Eizo added three models to its FlexScan line of square (5:4 aspect ratio) LCD monitors: the 19-inch FlexScan S1921-X and the 17-inch FlexScan S1721-X and FlexScan S1701-X. The latest FlexScan models include a Paper mode that simulates printed paper, an Auto EcoView brightness sensor, and an EcoView Index that displays power and CO₂ savings on-screen. The FlexScan models also provide compatibility with older graphics cards that output a sync-ongreen signal as well as compatibility with EIZO EcoView NET power management software. The monitors are compliant with EPEAT Gold, Energy Star 5.0, and TCO Displays 5.1 standards.

■ Flexera Software InstallShield Limited Edition For Microsoft Visual Studio 2010

Flexera Software announced InstallShield Limited Edition for Microsoft Visual Studio 2010. The Visual Studio extension allows users to build and deploy graphical projects using Microsoft's Team Foundation Server. Flexera says the software provides an easyto-use graphical development environment and gives developers an upgrade path to a large suite of MSI software installer solutions. InstallShield Limited Edition will also replace Visual Studio Installer as the primary MSI installer development tool, the company says. Flexera Software also offers InstallShield Express, InstallShield Professional, and InstallShield Premier for varied application software needs.

■ GigaSpaces XAP 7.1

GigaSpaces announced a new version of its XAP (eXtreme Application Platform). Version 7.1 features dynamic scalability, multitenancy, extended in-memory querying capabilities, and real-time trouble-shooting so that administrators can gather info from a large number of machines when suspicious events occur. It also has a new Web user interface.

■ HP MPS Smart Decision Suite & ePrint Enterprise For BlackBerry

HP launched its HP MPS (Managed Print Services) Smart Decision Suite, which is a services delivery platform that lets users view analysis and reports to develop a complete picture of how their imaging and printing devices are being used. HP also introduced the HP ePrint

Enterprise mobile printing solution for BlackBerry smartphones.

■ Hypercom SmartPayments Mobile

Hypercom released two SmartPayments Mobile products, MobilePlus and Mobile-Pro, which let merchants accept payments on iPhones. The products include a slider case with an encrypted PCI, PA-DSS-certified card reader. A barcode scanner allows for instant pricing, inventory control, auto population, and driver license validation while on the go. Shipments are to begin in June.

■ Lenovo L Series Notebooks

Lenovo released the L Series of notebooks aimed at enterprises, government agencies, and educational users. The series includes the 14-inch L412 and 15-inch L512. Both come with a choice of Intel Core i3 or i5 CPUs, a 16:9 HD antiglare display, Intel or ATI integrated graphics, 3G/4G wireless options, four USB ports, a combination eSATA/USB port, and Windows 7.

■ Microsoft Dynamics GP 2010

Microsoft announced Microsoft Dynamics GP 2010, which includes personalized Role Centers, more than 400 built-in Microsoft SQL Server Reporting Services and Microsoft Excel reports, and new tools such as PowerPivot for Excel 2010. Improved workflow processes are included, along with enhanced interoperability with Microsoft Office Unified Communications and built-in support for Microsoft Dynamics CRM.

■ Network Instruments Observer Reporting Server

Network Instruments announced the latest features for its Observer performance monitoring platform. Those features include reporting and performance tracking, including dashboards that display mission-critical information, Selective GigaStor Storage, baseline drift elimination, and enhanced financial application support. Pricing for the Observer Reporting Server starts at \$25,000.

■ Talend 4.0

Talend announced Talend 4.0, an upgrade for the data management platform that unites data integration, data quality, and MDM (master data management). Talend 4.0 delivers improvements in resource optimization and utilization and project consistency. For example, the common metadata repository promotes the sharing of information assets, such as user data, business models, and validation rules.

■ ThinPrint .print V-Layer Basic

ThinPrint released .print V-Layer Basic, which eliminates the need to install printer drivers on individual computers on the network. With ThinPrint's V-Layer technology, original printer drivers from the printer manufacturer are installed only on the print server. And the result is reliable, fast, secure, and virtually maintenance-free printing.

■ ViewSonic PJD5352

ViewSonic unveiled the PJD5352 (\$749) portable DLP projector that offers 3D video support. With XGA 1,024 x 768 resolution, a 2,600-lumen rating, and a 3,000:1 contrast ratio, the PJD5352 is capable of producing a 50-inch image at a distance of only 3 feet, ViewSonic says.

■ Wyse Technology Wyse PocketCloud

Wyse Technology announced that its latest version of Wyse PocketCloud offers 20 new features and improvements for existing iPhone, iPod touch, and iPad users. PocketCloud is designed to blend the enterprise popularity of Windows with the capabilities of Apple mobile devices. The enhancements include support for VMware View 4 and audio features.

MESSAGING & TELEPHONY

■ Alcatel-Lucent Genesys 8

Alcatel-Lucent introduced Genesys 8. This customer service software program allows for one organized conversation throughout channels and contact points. The new context manager synchronizes conversations, including in-person, contact centers, Web, mobile devices, and social media conversations. It also features role-based interfaces and a flexible modular solution.

■ Cisco WebEx Meeting Center App

Cisco released its WebEx Meeting Center app for BlackBerry smartphones. The WebEx audio conferencing system allows for a quick and simple connection to desktop meetings. Mobile users can start a meeting or chat with attendees. They can also see presentations, applications, participant lists, and desktops. Meetings are hosted via Cisco WebEx Collaboration Cloud.

■ CounterPath NomadicPBX

CounterPath launched NomadicPBX, a turnkey platform designed for messaging, presence, and SIP voice services. Network-based features include extension dialing from mobile handsets, support for core PBX calling features, and independent operation from IT infrastructure. NomadicPBX is based on CounterPath's Network Convergence Gateway.

■ Ensim Unify Exchange Manager 2010

Ensim released Unify Exchange Manager 2010, which Ensim says lets Exchange system administrators put in place delegated administration of complex management functions using a Web-based portal. Such functions include assigning mailbox rights and distributed group management and multiple mailbox searches without administrative-level accounts needed. Ensim says the release can improve overall IT efficiency by 30%.

■ Mitel Unified Communicator Advanced 3.1

Mitel announced Unified Communicator Advanced 3.1. The company notes that this release offers key enhancements, including improved mobile applications for Black-Berry smartphones, and lets the user work independently of the PC client. The system lets the user view corporate contacts, user, and device presence information; view call history and voice message details; and play messages from the Web browser.

■ Polycom Unified Communications Professional Services

Polycom announced its Unified Communications Professional Services, a portfolio of tools designed to help users integrate Polycom solutions into their UC environments. Features include Solution Planning & Design, Pilot Solution Deployment, and Full Solution Deployment services, complete with available service teams to ensure success.

■ TalkSwitch & Broadvox SIP Trunking

TalkSwitch announced the interoperability of TalkSwitch phone systems with Broadvox SIP Trunking service. Broadvox delivers IP communications solutions to enterprises through SIP Trunking, and TalkSwitch offers feature-rich phone systems for small enteprises. TalkSwitch systems equipped for VoIP SIP Trunking start at \$995.

■ Zultys & Quarta Mobile iConnected Unified Communications Client

Zultys and Quarta Mobile teamed up to create the Zultys iConnected Unified Communications client for the iPhone. With real-time connectivity, you can view the status and availability of your colleagues, and you can enjoy the simplicity of having a single contact number and extension. Additionally, productivity-enhancing features, such as presence, displayed visual voice mail, internal



extension dialing, and corporate directory access, are available. Access to your corporate directory, PBX, and internal iPhone address book is available, as well as call and IM alerts. The result is a well-connected employee, regardless of where they are working.

NETWORKING & VPN

Addonics NAU Adapter

Addonics released a NAU (Network Attached USB) adapter that it says lets users access any USB device via a LAN, essentially letting a user install any USB device via an existing network cable. Once networked, any system on the network can access the USB device. Data transfer rates of up to 30MBps are supported over LAN connections. The adapter costs \$49.95.

■ Aruba Networks Spectrum Analysis Module

Aruba Networks announced the release of its Spectrum Analysis Module, a software-based RF spectrum analyzer compatible with all Aruba AP-105 and AP-120 series 802.11n access points without the addition of new hardware. The product isolates RF problems in real time, which helps networks and multimedia applications run efficiently.

■ Blade Network Technologies & Voltaire 10GbE Data Center Switch Fabrics

Blade Network Technologies and Voltaire have partnered to deliver high-density 10 Gigabit Ethernet data center switch fabrics. The technology is based on Voltaire's Vantage 8500 Layer 2 core switches and Blade's RackSwitch G8124 top-of-rack switch. It can provide flat data center fabrics of more than 3,400 10GbE ports with nonblocking, lossless switch capacity of 11.52 Terabits per second.

■ Celestix XLB Traffic Manager Appliances

Celestix announced XLB traffic manager appliances, which it says cost-effectively give enterprises speed and flexibility. The three models (XLB 8000, 6000, and 5000) employ TrafficScript inspection engine software to provide bidirectional deep-packet inspection of Layer 7 network traffic. They offload operations involving

PRODUCT RELEASES

protocols such as TCP and SSL for performance reasons, just as they balance loads across servers on the network. There's support for Java Extensions, which can enable additional capabilities such as authentication, the company says. Celestix addresses security via various features including server isolation as well as availability through failover functionality.

■ cPacket Networks cVu320G

cPacket Networks announced a 320-gigabit network appliance called the cVu320G. It offers comprehensive packet inspection filtering, flexible traffic aggregation, selective duplication, and flow-based load balancing for 32 10Gb links. Additionally, users can enjoy granular, wire-speed performance monitoring.

■ Enterasys Wireless Access Points

Enterasys announced its Enterasys Wireless access points, the AP3605, AP3630, and AP3640. The intelligent access points work with WLAN enterprise operations by providing 802.11a/b/g/n capabilities for network deployments. The access points also allow for the management of two network infrastructures on a single entity. The Enterasys Wireless access points start at \$685.

■ Fiberlink MaaS360 ACR Module

Fiberlink announced the MaaS360 ACR (Any Connection Reporting) module, which aims to give enterprises a complete overview of the way mobile employees access the Internet. The MaaS360 ACR module can log any connection from any device issued by your company to pinpoint security risks and unnecessary access costs.

■ Fluke Networks OptiView Network Analyzer 5.4

Fluke Networks released version 5.4 of its OptiView Network Analyzer software for speeding up and simplifying network and application troubleshooting on wired and wireless networks. Features include Fluke's recently acquired AirMagnet Wi-Fi Analyzer and AirMagnet Survey software for deeper views into an enterprise's network infrastructure. Other features let network engineers monitor 10GbE interfaces via SNMP-based infrastructure analysis.

■ Minicom Advanced Systems AccessIT

Minicom Advanced Systems announced the latest version of its remote access management platform that comes with single sign-on capability and an exclusive mode for security. AccessIT's broader PDU and console support, along with remote access to KVM, serial, and power equipment, help IT personnel log in to the data center to quickly correct problems with important resources.

■ Netreo V2 Virtualization Visualizer

Netreo announced the release of its V2 Virtualization Visualizer, a tool that provides real-time dashboards, alerts, and historical reports to give users insight into their virtualized environment. The utility enables IT managers and server administrators to see which applications are utilizing resources, allowing over- or under-utilized resources to be efficiently managed.

■ nMetrics Traffic Performance Manager v3.2

Ace Computers announces the release of nMetrics' TPM (Traffic Performance Manager) v3.2, a software platform that provides a cost-effective way to collect and report on all traffic flows within the enterprise and telecommunications networks. A super-fast database allows the product to scale to the largest of environments, where key reporting functionality is

based around usage-based billing reports. Traffic can be collected in a number of ways from any network, and network operations staff can easily view all performance



and volume metrics. TPM v3.2 can be installed on a number of hardware options. It is suited for the MSP market and can integrate with other third-party network management vendors.

■ Oracle Enterprise Manager 11g

Oracle announced the Oracle Enterprise Manager 11g, which offers application management that lets IT personnel respond quicker and more efficiently to top priorities. It also offers built-in application-to-disk management to simplify the management process as well as systems management and support with a detailed service dashboard.

■ Oracle MySQL Cluster 7.1

Oracle released the latest version of MySQL Cluster. MySQL 7.1 includes MySQL Cluster Manager that automates databases and lets IT personnel react to market changes. It also adds NDBINFO, which offers real-time status and usage information. MySQL Cluster Connector for Java enables Java applications that can use JDBC or JPA to communicate with the cluster.

■ Paragon Software Group Paragon NTFS For Mac OS X 8.0

Paragon Software Group announced Paragon NTFS for Mac OS X 8.0. The product eliminates barriers between Windows and Mac and supports Mac OS X 10.6 Snow Leopard in 64-bit mode. Paragon NTFS is the industry's fastest NTFS driver for Mac OS X 8.0, offering an efficient solution for those who want to share data between Mac and Windows.

■ Parallels Plesk Panel 9.5

Parallels announced Parallels Plesk Panel 9.5. It includes Google Services for Web sites, PCI compliance, free installation, migration and upgrade support, self-diagnostic tools, and automated bug fixes. Additionally, it offers support for the majority of virtualization platforms. Parallels Sitebuilder 100 and Parallels Billing 1000 are both included free.

■ Proginet AnyFileNow

Proginet announced a universal file transfer service to provide fast, reliable, and secure transfers of any type or size of file to an internal or external partner. The cloud-based service, dubbed AnyFileNow, lets enterprises more efficiently manage file transfers and reduces the complexity and risks associated with such transfers. The software-as-a-service offering provides a mechanism for the safe, transparent transfer of files within a corporation regardless of geography; the transfer of information between a company and its business partners; unscheduled transfer of files between individuals; and desktop-todesktop and email attachment transfers through corporate firewalls.

■ Radware LinkProof

Radware released LinkProof, a multiple WAN application infrastructure product for Radware's OnDemand Switch 3 Series platform. The addition gives enterprises increased ability to optimize bandwidth needs, Radware states, while maximizing scalability performance at multilink speeds of 16Gbps. Features include continual monitoring of every ISP connection,

inbound and outbound traffic redirection, and on-demand scalability in WAN links and managed WAN traffic.

■ Sybase PowerBuilder 12

Sybase announced the release of Sybase PowerBuilder 12, the latest iteration of the company's rapid application development tool. PowerBuilder 12 gives developers a fast, easy way to create or migrate .NET business applications. This release provides a seamless .NET environment that incorporates the Visual Studio shell.

■ Symantec Altiris IT Management Suite 7.0

Symantec launched its Altiris IT Management Suite 7.0, formerly Altiris Total Management Suite 6.5, which lets IT users deploy software more quickly and deliver security continuity that can defeat internal and external threats and effectively manage changes. IT Management Suite 7.0 provides comprehensive client, server, and asset management with full service desk and automation capabilities.

■ Xen.org Xen 4.0

Xen.org announced Xen 4.0, its advanced open-source hypervisor software. Significant memory and security optimizations are offered in this version, with resulting performance that makes virtualization suitable for all workloads, allowing virtualization to be deployed ubiquitously, across every server in the data center.

PHYSICAL INFRASTRUCTURE

■ Chatsworth Products Physical Security Solutions

Chatsworth Products announced its set of Physical Security Solutions, including the DVR Security Enclosure, CUBE-iT Mini Equipment Enclosure, and Wall Bracket with Cover. The products are designed to keep DVRs, servers, and other electronic security devices safe and secure when outside of equipment rooms.

■ Enterasys B5 & C5 Switches

Enterasys announced additions to its A/B/C-Series stackable switch line, the B5 and C5 switches. The switches contain embedded management automation features and provide IEEE 802.3at-compliant PoE and 10 Gigabit Ethernet connectivity. Both the B5 and C5 stackable switches will be available in the second quarter.

■ Staco Energy Products FLU-10S

Staco Energy Products released its second-generation three-phase uninterruptible power supply, the FLU-10S. The FLU-10S offers a standard battery run time of over nine minutes, which can be extended through the use of optional batteries. The FLU-10S includes a user-friendly control panel, alarm, and an RS-232 connection.

SECURITY

■ Check Point Software Technologies Antivirus & URL Filtering Software

Check Point Software Technologies announced streaming technology designed to increase performance on its antivirus and URL filtering software blades. The software upgrade bears no additional cost. Check Point's UTM-1 appliances now have the company's SecureXL acceleration technology, which is designed to enhance firewall throughput.

■ Check Point Software Technologies DLP Solution

Check Point Software Technologies announced its network-based DLP (data loss prevention) solution. Check Point DLP is designed to help enterprises protect sensitive information from regulatory, confidential, and proprietary loss and features a multidata correlation engine as well as the ability for users to fix problems in real time.

■ Check Point Software Technologies SmartEvent Software Blade

Check Point Software Technologies introduced its SmartEvent Software Blade, which is a unified security management platform capable of delivering real-time event visibility across firewalls, IPSes, and DLPs. SmartEvent consolidates security events so users can quickly resolve critical security issues. Check Point SmartEvent Software Blade features real-time event information and trends, a single unified event interface, actionable threat management, advanced geo-protection, and built-in ticketing.

■ Entrust IdentityGuard Mobile

Entrust is adding IdentityGuard Mobile to its previously released Transaction-Guard and IdentityGuard apps for guarding against man-in-the-browser malware attacks. IdentityGuard Mobile, a one-time-passcode authentication app, works on iPhone, BlackBerry, Windows Mobile, and Symbian platforms in banking, enterprise, remote access, and government environments. The software will be available as part of IdentityGuard 9.3.

■ Global Velocity GV-2010

Global Velocity announced the GV-2010 cybersecurity product. The GV-2010 helps organizations identify, classify, and control large amounts of network data, working at speeds up to 10Gbps. The solution combines the security of individual software solutions and hardware appliances into a single hybrid platform.

■ RSA CyberCrime Intelligence Service

RSA, the security division of EMC, announced the RSA CyberCrime Intelligence Service, a service driven by the RSA Anti-Fraud Command Center. The CyberCrime Intelligence Service is designed to help organizations identify malware-infected resources and adjust security controls to eliminate threats and protect enterprises against information theft.

■ Symantec Control Compliance Suite 10.0

Symantec introduced its Symantec Control Compliance Suite 10.0, which is the latest version of the firm's automated IT risk and compliance management platform. Control Compliance Suite 10.0 integrates content awareness from Symantec Data Loss Prevention and an infrastructure vulnerability assessment tool. Symantec Control Compliance Suite 10.0 will be available in the second half of this year.

■ Symantec Data Loss Prevention 10.5

Symantec released the updated version of Symantec Data Loss Prevention, version 10.5, which is a data security suite that lets users engage in social media exchanges without negating the security of documents, spreadsheets, and email. Symantec Data Loss Prevention Data Insight and Symantec Data Loss Prevention Standard Edition 10.5 support Windows 7 64-bit.

■ Symantec Protection Suites

Symantec released its Symantec Protection Suites, which are designed to protect the enterprise by unifying networkwide information security management. Symantec's offerings include Symantec Protection Suite Enterprise Edition for Endpoints, for Gateway, and for Servers. Symantec Protection Suites will be available this summer.

 $Go\ to\ Page\ 6$

PRODUCT RELEASES

Continued from Page 5

■ Tenable Network Security Passive Vulnerability Scanner 3.2

Tenable Network Security released the latest version of its popular PVS (Passive Vulnerability Scanner) utility. PVS 3.2 adds features that include passive discovery of client- and server-side vulnerabilities, including vulnerable ActiveX apps, real-time logging of all file transfers and sharing, and real-time passive monitoring and logging of SQL transactions.

■ WatchGuard Technologies WatchGuard Quarantine Management Server

WatchGuard Technologies launched the WatchGuard QMS (Quarantine Management Server), which is designed to improve business protection against spam, phishing, and malware-laden messages. The WatchGuard QMS is an automated, intelligent email quarantine solution that allows enterprises to direct unwanted email or large messages to a local quarantine server for further processing.

SERVERS

■ Abtech Systems & Pano Logic Pano System

Abtech Systems and Pano Logic created the Pano System, a virtual desktop solution. Abtech says the zero-client solution will improve network and data security and cut power consumption and overhead costs. The Pano System is designed for health-care, government, manufacturing, banking, and other middle market companies.

■ Ensim Unify Audit Manager

Change management specialist Ensim announced Ensim Unify Audit Manager, a tool created to simplify the Windows Server 2008 event logging process by auditing all critical changes to Active Directory domain services and group policies. The product provides security administrators and auditors with a location-independent, lightweight auditing solution and a Web front-end designed for next-gen Active Directory environments.

■ Ensim Unify Enterprise Edition OCS Manager 2.5

Ensim released the Ensim Unify Enterprise Edition OCS Manager 2.5. OCS Manager 2.5 integrates into your present directory infrastructure and provisions policies, while also supporting several provisioning workflows. Additionally, it automates daily updates and provides end-user service according to IT policies as well as full audit and reporting for these processes.

■ Quest Software vWorkspace

Quest Software announced the latest release of vWorkspace, its single virtualization solution for desktop deployments and application delivery. The release features EOP Xtream and integration with Microsoft Windows Server 2008 R2 Remote Desktop Services. EOP Xtream features fast screen updates and smoother high-latency connections. Automated work management makes desktop virtualization on Windows Server more efficient.

SERVICES

■ Iron Mountain Litigation Support Solution

Iron Mountain released its Litigation Support Solution, which is a consulting service and data gathering offering that is designed to help organizations prepare for litigation. Iron Mountain helps users find relevant hardcopy records, digitize documents, and combine them with the firm's review and archiving services.

■ NaviSite Cloud-Based Services

NaviSite announced additions to its cloud services portfolio with the availability of cloud-based managed infrastructure, applications, and messaging services for enterprise customers. The services include NaviCloud Managed Infrastructure Services, NaviCloud Managed Application Services, and NaviCloud Managed Messaging Services.

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Features include infrastructure and application SLAs, predictive usage-based pricing, a multipronged auditable security model, a drag-and-drop Web interface, and delivery based on the NaviCloud platform. NaviCloud is a VMware vSphere 4-based IaaS platform with ondemand, flexible, and customizable capabilities that features enterprise-class scalability, performance, and security. The services will be available in June.

STORAGE

■ Aberdeen AberSAN

Aberdeen released the AberSAN, a high-bandwidth scalable storage appliance that Aberdeen says provides the simplification of a NAS server to a SAN environment by mixing Fibre Channel and iSCSI block-level connections with multiuser network sharing. Based on Intel's Xeon 5600 series processor, the AberSAN includes multiuser file-level and blocklevel read/write abilities; compatibility with VMware virtualization environments; iSCSI, 10GbE, and fiber connectivity; ZFS in-line block-level duplication; up to 192GBps memory capacity; and simultaneous SATA/SAS hard drive integration. An 8TB scalable AberSAN model starts at less than \$9,000. Models are customizable up to the 96TB AberSAN Z80.

■ B&L Associates & Index Engines Archived Data Manager

B&L Associates partnered with Index Engines to let users enjoy B&L's Archived Data Manager indexing and restoration capabilities with an Index Engines appliance. B&L's ADM finds inactive backup catalog information and moves the data to an ADM-managed catalog archive.

■ Barracuda Networks Backup Server 990

Barracuda Networks announced the Barracuda Backup Server 990, a local backup product capable of up to 24TB of internal storage. The server comes with the Barracuda Backup Subscription to provide cloud-based offsite backup storage. The whole package creates the Barracuda Backup Service, which features more efficient backup transfer methods.

■ Credant Technologies FDE DriveManager

Credant Technologies released FDE DriveManager for Seagate Momentus 2.5-inch drives with self-encrypting abilities to protect against stolen or lost data through remote management. FDE Drive-Manager provides centralized management, giving IT tools to manage security policies, enforce compliance, and create management reports. The software is also available as a standalone version.

■ Data Deposit Box KineticD

Data Deposit Box announced the release of KineticD, a cloud storage and remote access solution for backup, restoration, and information sharing.

KineticD features KineticSecure and KineticExtend. The KineticSecure storage service lets users access, back up, share, and recover online data. Kinetic-Extend provides remote user access to applications, files, and devices.

■ EMC Data Domain Global Deduplication Array

EMC announced the EMC Data Domain GDA (Global Deduplication Array). It uses twin Data Domain DD880 controllers to handle up to 12.8TB of data per hour and provide a global namespace for all files. The Data Domain GDA works closely with a backup program and can supply up to 14.2PB of logical backup storage.

■ IBM DS8700 & XIV Storage System

IBM announced its DS8700 disk storage system now has a System Storage Easy Tier feature, which lets users monitor performance, determine what data is the most active, and then transfer the data to faster solid-state drives. IBM also unveiled its updated XIV Storage System, which supports 2TB drives and lower voltage processors.

■ Iron Mountain CloudRecovery

Iron Mountain announced the latest version of its CloudRecovery solution for Microsoft System Center Data Protection Manager 2010. CloudRecovery lets Microsoft DPM users secure their multiterabyte business data offsite, for short periods or for the long term. The latest features include disaster protection and an onsite Iron Mountain TurboRestore appliance with Data Shuttle services.

■ Mezeo Software Cloud Storage Platform

Mezeo Software released the Mezeo Cloud Storage Platform, a highly scalable platform that features end-to-end encryption, advanced file sharing and collaboration, content tagging, and remote access. The Mezeo Cloud Storage Platform also features LDAP (Lightweight Directory Access Protocol), which allows for dynamic group sharing and public URL generation.

■ Nasuni Filer

Nasuni announced the Nasuni Filer, a tool designed to leverage cloud resources to simplify file access, storage, and protection while eliminating the expense of storage hardware and infrastructure expansion. Features include automatic storage capacity provisioning, high-performance caching, synchronous snapshots, deduplication, and encryption plus key management for security.

■ NovaStor NovaBACKUP 11.1

NovaStor announced that NovaBACKUP 11.1, the latest version of its backup software that allows users to back up data locally and online, will be available exclusively on Download.com. The latest features include the TimeSlider restore feature, which lets users easily view and restore all files that have been backed up, all from a single screen.

■ SGI InfiniteStorage Server 3500

The ISS3500 from SGI is targeted toward HPC and other environments with intertwined data and compute needs. It is a high-density, power-efficient storage server that supports iSER for iSCSI over InfiniBand and other low-latency protocols. The 4U, dual Intel socket ISS3500 can house up to 72TB with current drives.

■ StorageCraft ShadowProtect ImageManager Enterprise 4.0

StorageCraft Technology released ShadowProtect ImageManager Enterprise 4.0, its latest backup, disaster recovery, and system migration solution. Features include HeadStart Restore, which allows IT managers to automate recovery; replication technology that lets users send their backups to a separate location; image replication, consolidation, verification, and re-verification; and email notification.

■ StorageCraft ShadowProtect Server 4.0 & ShadowProtect Small Business Server 4.0

StorageCraft Technology released ShadowProtect Server 4.0 and Shadow-Protect Small Business Server 4.0, its backup, disaster recovery, and system migration solutions. The new solutions reduce the amount of time systems are offline and use HIR (Hardware Independent Restore) to quickly recover to the same system, to dissimilar hardware, or to and from virtual environments.

■ Symantec Veritas Storage Foundation, Thin Reclamation API

Symantec announced improvements to its Veritas Storage Foundation for more efficient automation of storage optimization in Windows, Linux, and Unix environments. The company also reported that EMC, HP, Fujitsu, NetApp, and Compellent have added support for its Thin Reclamation storage optimization API.

■ Tandberg Data LTO-5 Half Height Tape Drives & Media

Tandberg Data announced its LTO-5 Half Height tape drives and media. The LTO-5 tape drives can reduce IT storage costs and back up 3TB of data on a single cartridge in less than three hours. Other features include 6Gb SAS or 8Gb Fibre Channel connectivity, regulatory compliance with LTO WORM (wrote one, read many), 40% less power consumption than previous LTO generations, a new partitioning feature that simplifies long-term storage and archiving, and increased reliability with MTBF of 250,000 hours at 100% duty cycle. The LTO-5 tape drives start at \$2,995, and LTO-5 media pricing starts at \$129.

■ Winchester Systems FlashDisk VX-3400

Winchester Systems announced it added storage service support to its FlashDisk VX-3400 Series SAS/SATA disk array RAID controllers, including automated disk-to-disk primary to secondary storage backup, mirroring, virtual storage pools, volume copy, snapshots, and more. Each 3U unit is able to store up to 224TB of data, the company says.

■ Zmanda Amanda Enterprise 3.1 & Disaster Recovery Option

Zmanda introduced version 3.1 of its Amanda Enterprise, which offers features such as NDMP (Network Data Management Protocol) and VMware Backup. Zmanda also announced the Disaster Recovery Option for Amanda Enterprise, which lets IT managers replicate the backup server to create a remote disaster recovery option.

■ Zmanda Disaster Recovery Option For ZRM For MySQL

Zmanda announced a Disaster Recovery Option for ZRM (Zmanda Recovery Manager) for MySQL. The Disaster Recovery Option for ZRM is designed to provide an economical cloud-based disaster recovery solution for MySQL environments. Zmanda also announced that it optimized ZCB (Zmanda Cloud Backup) for the online protection of large-scale dynamic MySQL implementations.

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Keys To Hardware Upgrade Success

Continued from Page 1

CSS (www.csscorp.com), suggests robust system-level testing to make sure servers, storage, and other equipment are working properly; performance testing under load conditions to determine if upgraded components operate well under significant load; and use of various load-testing tools to establish performance parameters of systems. He adds that there should be a step-by-step upgrade plan as well as a detailed back-out plan.

The existing environment should be documented comprehensively, and existing applications should be certified to work with the new hardware, adds Dr. Amitava Maulik, chief scientist for Connectiva Systems (www.connectivasystems.com). He says, "There should be a detailed plan of the upgrade process, and one should walk through the process on paper to identify any missing dependencies."

New loads on power outlets, cooling units, and other equipment should be computed and verified, he says, and the existing environment should be backed up and tested for restoration. Downtime should be planned and communicated to all affected users through memos, emails, flyers, and the corporate Web site.

Also, success criteria should be defined in advance. "The current environment should be benchmarked so that, after the upgrade, a similar benchmark can be run to prove improvement in performance and available capacity, availability, failover, etc., as appropriate," says Maulik. "In addition, the space, power consumption, and heat generation before and after should be noted to quantify the benefits of the upgrade vs. the cost."

Create A Risk Mitigation Plan

All missteps related to upgrades can usually be attributed to inadequate planning and an insufficient risk mitigation plan, Maulik says: "Any major upgrade will surely have elements of surprise. A proper risk mitigation plan will ensure that time isn't wasted on routine issues and can be utilized to fix the surprise elements."

More problems are created when multiple changes are made in an effort to fix an issue, he adds. So, changes should be made in a controlled way with the option for reversal. This should help reduce the chance that more problems are being created as challenges emerge.

Get The Right People Ready

When upgrading, have vendors at the data center or at least available by phone during the time that upgrades are being put in place, suggests Abbas. The vendor

representatives should be prepped with knowledge of the upgrade and able to get the right people on the phone in case of an issue. This could save valuable time if any challenges come up and need to be fixed immediately.

well as aid in traffic prioritization, adds Suesens. Additional tools to consider might be power monitoring, with distribution and management at the outlet, strip, or branch circuit level; key metric visibility tools, which give real-time insight into power usage effectiveness, data center infrastructure efficiency, and energy consumption; equipment monitoring and control tools for chillers, computer

"There should be a detailed plan of the upgrade process, and one should walk through the process on paper to identify any missing dependencies."

- Connectiva Systems' Dr. Amitava Maulik

In terms of engineers, Abbas says, "If problems begin to occur, don't think that the engineers are supermen or superwomen; instead, keep in mind that an engineer's troubleshooting capabilities will diminish as more time goes by. Keep extra resources lined up for extended issues and give the team an opportunity to rest."

Invest In Tools

Tools that can help include standard compatibility documents from hardware vendors, which can be checked to avoid any incompatibility issues. "These are typically provided by the hardware and software vendors involved," says Maulik. "Third-party system, storage, and network monitoring tools are also very helpful. Regression-testing tools and trouble-ticketing tools can also be very handy in such situations."

Network bandwidth monitoring and organization tools can help maximize bandwidth and prevent bottlenecks as room air conditioners and heaters, generators, uninterruptible power supplies, power distribution units, and automatic transfer switches; and tools for visual modeling and capacity planning.

Back Out If Necessary

Upgrades can be costly endeavors, and it's important to stick to the plan, Abbas notes: "A typical mistake is when engineers decide to make unapproved and untested changes to systems because they're considered not significant."

But another stumbling block can be forging ahead even though numerous problems crop up. It's difficult to back out of an upgrade considering the amount of planning, but it's better to scrap the plan than face even more difficulties in the near future. Abbas suggests that "back-out triggers" be established before an upgrade is started. He says, "Remember, tomorrow is another day for an upgrade."

Top Tip: Be Ready For Post-Upgrade Issues

After upgrading hardware, do a postmortem, suggests Ahmar Abbas, senior vice president of remote infrastructure management at CSS (www.csscorp.com). This will help determine what went well and what didn't. Also, be vigilant and track calls being made to the enterprise help desk; this should give IT early indications of clusters of problems being reported. Abbas adds, "The post-upgrade period will also yield a lot of false positive calls, as users will assume all the technology problems are related to the upgrade."

Wind Power & Cooling

Continued from Page 1

position our clients to benefit from outsourcing with a green managed services provider," says Robb Allen, CEO of Datapipe (www.datapipe.com), a firm that's using wind power for its New Jersey data centers.

Allen decided to switch to wind power in late 2009. Beyond ensuring continued efficiency, he felt the "green" aspects of using wind power—such as zero emissions of greenhouse gases and no harmful pollutants—were too attractive to pass up. "I felt strongly that we had a responsibility to our clients, our community, and our kids to take advantage of the option to drastically reduce our carbon footprint," he says.

A similar sustainable endeavor is Green House Data (www.greenhousedata.com), with a 10,000-square-foot facility in Cheyenne, Wyo. Running primarily on wind power, the facility is the work of several technology entrepreneurs who wanted to create a business model around renewable energy, says the company's president, Shawn Mills.

"We've taken a blended approach, where we get wind power through partnering with a local wind provider, but also with a renewable energy firm about 6 miles away," he notes. "As a result, our power cost has stayed pretty flat, so that's nice to have our prices stay steady."

In terms of cooling, the data center uses an air side economizer that works well with the wind power strategy. Mills says, "With this type of cooling, virtualization, wind, and best practices in terms of layout, we feel that we've been able to significantly boost efficiency."

Challenge Round

Although wind power can be useful in becoming more environmentally friendly, there are definitely challenges when it comes to implementation. Most notably, it's unlikely that a data center can just order a wind turbine, install it, and suddenly start saving money.

As Mills notes, the areas most ideal as wind zones tend to be the least desirable for data centers. He says, "For a data center, you need power, cooling, and broadband; those are the three major elements. The optimal location for wind tends not to have

Outsourcing For Better Efficiency

In addition to looking toward wind power, there are other cooling alternatives climbing in popularity, notes Kris Domich, principal consultant at Dimension Data (www.dimensiondata.com). Of course, one of the most effective ways to cut power and cooling costs is to outsource most of the data center operations, Domich adds. He believes that in the next five years, corporate in-house centers will start to dwindle, in large part because of consumption costs, and will be replaced by colocation and cloud computing strategies. He says, "The amount of building, engineering, and other resources required to operate a wind program are quite high. So, colocation and clouds are more attractive because of economies of scale."

prohibitive, especially because wind farms require quite a bit of land, as well.

Then, too, there are additional up-front costs involved, Allen says. But he feels that significantly reducing the company's carbon footprint is fair compensation. Without increasing costs to clients, Datapipe's decision to use renewable energy is expected to result in an initial reduction of more than

run and lead to more efficient cooling thanks to better power consumption.

"Once we got beyond the initial hurdles, it's been great," says Mills. "Everyone in the industry that we've worked with has been super helpful and very passionate about wind power, and that's helped us to have numerous conversations about using as much renewable energy as possible."

"For a data center, you need power, cooling, and broadband; those are the three major elements. The optimal location for wind tends not to have one or two of those factors."

- Green House Data's Shawn Mills

one or two of those factors; for example, broadband could be missing, or power could be unreliable. It's almost impossible to find the magic combination of all three."

Wind farms tend to be located in zones where there's sustained wind, adds Domich from Dimension Data (www.dimension data.com), which makes sense—investing in wind turbines and putting them in an area without strong winds would be counterproductive. But putting a data center close to these areas, often rural, would likely be cost

9.5 million pounds of carbon emissions annually. Also, Datapipe's reputation for sustainable IT is a draw for clients who are looking for green-powered facilities, making utilization of wind power a beneficial marketing move.

Beat The Heat

Despite challenges in implementing wind power, many experts believe that using this type of alternative energy can lower costs for a data center in the long Domich adds that there's a good deal of activity with the EPA's Energy Star program, especially in the area of data centers, and cooling efficiency, so he expects future regulation around carbon emissions. If that comes to pass, the use of renewable energy will be more attractive—and perhaps more competitively priced—in the near future. Already, colocation facilities are considering renewable energy sources such as wind to stay ahead of the curve, Domich says.



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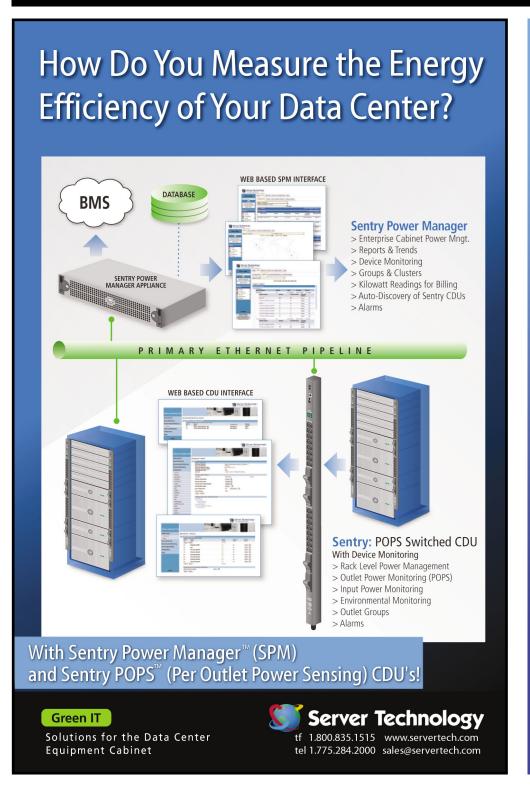
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Upcoming IT Events

For more Upcoming IT Events, see page 3.

Uptime Institute Symposium 2010

May 17-19 Hilton New York New York, N.Y. symposium.uptimeinstitute.com

> AITP Long Island May 18 www.aitp-li.org

AITP Southwest Missouri

May 18 Springfield, Mo. aitpspringfield.org

ISSA St. Louis Chapter

May 18 St. Louis, Mo. stl.issa.org

New Horizons SpecTechular 2010

May 18 1890 Commerce Center Blvd. Dayton, Ohio www.nhcomputerlearning.com

Oklahoma City AITP Chapter

May 18 Oklahoma City, Okla. www.aitp.org/organization/chapters /chapterhome.jsp?chapter=40

AFCOM Central Ohio

May 19 Columbus, Ohio www.afcomcentralohio.org

AFCOM North Carolina

May 19, 9:30 a.m.
SAS Institute
#1 Campus Dr.
Cary, N.C.
www.afcomnc.org

AITP Lehigh Valley

May 19 Fleetwood, Pa. www.lv-aitp.org

AITP Northeastern Wisconsin Chapter

May 19, 4:15 p.m.
Holiday Inn Select
150 S. Nicolet Road
Appleton, Wis.
new.aitp.org

AITP Atlanta

May 20, 5:30 p.m. Crowne Plaza Atlanta Perimeter NW 6345 Powers Ferry Road NW Atlanta, Ga. www.aitpatlanta.org

AITP Greater Boston

May 20 Phillip's Old Colony House Dorchester, Mass. www.bostonaitp.org

ISSA Upstate South Carolina

May 21 NuVox 301 N. Main St., Suite 5000 Greensville, S.C. www.upstate-issa.org

SSA Des Moir

May 24 3920 SW Camden Circle Ankeny, Iowa www.issa-desmoines.org

- JUNE -

7x24 Exchange Spring Conference
June 6-9

Boca Raton Resort and Club Boca Raton, Fla. www.7x24exchange.org/spring10/index.htm

Gartner IT Infrastructure, Operations & Management Summit

June 14-16
JW Marriott Grand Lake
Orlando, Fla.
www.gartner.com/technology/summits
/na/it-operations/index.jsp

Green Data Center Conference

June 15-17
San Diego Super Computer Center
at University of California San Diego
San Diego, Calif.
www.greendatacenterconference.com

COVER FOCUS

Social Media Successes

Establishing Strong, Effective Policies Is Key To Joining The Social Media Scene

by Carmi Levy

ORGANIZATIONS IN ALL SECTORS are increasingly finding their internal and external communications influenced by social media tools and practices. This is being driven largely by growing use of consumer-focused social networking tools within the workplace. A recent study released by Cisco reinforces the growth of these tools in the workplace: Three-quarters of survey respondents use consumer-based social media tools within the enterprise,

and about half of them are also using microblogging extensively. As employees lean more heavily on these platforms in their private lives,

they inevitably bring

them to the office—and in the process, expect IT to integrate them into existing solutions.

Key Points

- As employees bring Facebook, Twitter, and LinkedIn into the office, IT must define how to safely integrate these tools and processes into existing workflows without compromising security or competitiveness.
- IT must work with the business to understand its long-term goals. Social media policy will flow out of this and help achieve the levels of efficiency and effectiveness needed to reach these goals.
- Social networking can potentially expose corporate information to hackers and criminals. Implement a policy framework to reinforce proper behaviors and keep the right information in the right hands.

However, becoming Facebook-, Twitter-, and blog-friendly isn't a simple matter of granting staff full access to these services. Don't dive in without first creating a social media strategy that both aligns with and supports current and projected IT and business goals.

Frameworks Are Key

Despite the key benefits of broader social media integration—including greater levels of collaboration, increased agility, and greater customer responsiveness—IT and business leaders are challenged by an ongoing lack of governance. Only one in seven respondents to the Cisco survey had a formal process in place to guide implementation of consumer social media tools within the enterprise. About 20% had acceptable use policies in place. A pitfall for IT lies in the assumption that social media policy and practice revolves around the tools themselves. It doesn't.

"Bringing social media tools into the enterprise shouldn't be the end goal," says Wendy Steinle, a marketing director with Novell (www.novell.com). "Stay focused on the goal of helping the organization reach a breakthrough in efficiency and better business outcomes."

Once the outcomes are clearly established, Steinle says the organization can work backward from there—a process that

may lead to a need for a combination of new social messaging technologies.

Solutions May Already Be In Place

Adapting existing communication strategies can help companies reverse-engineer outcomes and requisite tools and processes. Although most organizations believe they need to reinvent the wheel when pursuing greater social media maturity, the truth is

the answers for successful implementation are already in place.

"IT should not be treating the social channel as this entirely different beast," says Craig Robinson, chief operating officer at GlobalSCAPE (www.global scape.com). "Yes, it does have unique attributes and raises unique concerns. But so does every other type of communication channel. From a strategy, policy, process, and technology perspective, it should be treated

as part of the whole."
As is often the case
with technology-related projects, organizations are at risk
of forgetting the softer implications of
these implementations.

"A lot of the risks encountered in a social media roll-out are not technical in nature but content-related," says Doug Mow, senior vice president of marketing at Virtusa (www.virtusa.com), a business consulting and IT outsourcing company. "For example, public companies have to be very careful with inside information and disclosure. The online policies are no different than the normal policies, but the penalties for noncompliance can be magnified many times over in the online world."

Understand The Current Policy Landscape

To ensure that social media use among employees doesn't place the organization or its technologies at unnecessary risk, Mow recommends proactively reviewing existing policies and workflow. Identify storage strategies and policies for each specific area of content and estimate server and bandwidth requirements to ensure employees get the most out of their newfound social capabilities.

"IT policies can inhibit the social media strategy," says Mow. "For example, organizations whose network policies prohibit social media access need to modify those policies before the social media launch."

The risks extend well beyond the employees themselves. Social media platforms make it relatively easy for employees to publish a broad range of often-sensitive information, including seemingly innocuous things such as names, titles, supervisors, job descriptions, and contact information, to an equally broad audience.

"Criminals can use this information to target individuals within the company with phishing attacks or to send packages to try to harm their systems or the corporate network," says Anthony Blakemore, principal security consultant with Accuvant Labs (www.accuvant.com). "This risk can be mitigated through strong user awareness policies and education that teaches employees about current threats so they know how to respond to links and emails and handle email attachments."

A Plan Of Attack

For organizations hoping to safely integrate social media into their operations, Virtusa's Mow recommends the following process:

- Engage the sponsoring business community. IT must develop an in-depth understanding of the business area's social media programs and their anticipated impact as well as the programs' overall goals and definitions of success.
- Determine policy issues. Review organizational policies surrounding behaviors, disclosure, and system accesses and modify them to ensure that they still make sense in a social mediaenabled environment.
- Consider a pilot. Select experienced professionals whose online behavior will not create issues.
- Roll it out. Keep all programs precise, explicitly documented, and internally marketed. Establish clear expectations to minimize the potential for losing control.
- Modify guidelines and expand. As social media learning becomes more ingrained within IT, extend availability to wider audiences and apply what is learned along the way.



Top Tip: Start With The Users

Ask employees about their collaborative needs and take the time to observe how they use current technology. Craig Robinson, GlobalSCAPE's chief operating officer (www.globalscape.com), says user-level input is a powerful place to begin.

"Use this information to determine new social channels that you need to introduce or manage for users to be more effective," he says. "Then make your own business case, in business terms, so non-IT executives do not need to sift through the technical jargon to develop the case for you."



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News

■ VMware Growth, Profits Jump

Reflecting a tremendous growth in cloud computing and virtualization, VMware reports that its profits jumped 12% on first-quarter revenues of \$633.5 million, a 35% increase from a year ago. During the quarter, the company acquired Zimbra, an email and collaboration software firm, from Yahoo!. Company officers foresee a continued boost in revenues as companies purchase virtualization products as part of an expected upgrade to their aging desktop computers. U.S. revenue was \$317 million, up about 30% compared to last year, and the company reported a

profit of \$78 million last year. VMware has 7,700 employees, up about 9% from the beginning of the year.

AT&T Earnings Plummet

The country's largest telco added only 512,000 new wireless customers during the first quarter, a drop of some 43% compared to a year ago. Absent earnings generated by the iPhone, earnings would have been much worse, possibly creating a net loss in terms of new customers. The company earned about \$2.5 billion in the first quarter, down 21% from a year ago. The lower figures reflect the saturation of the wireless market, say analysts. Still, the communications firm beat the average forecast of 54 cents per share. Revenue was flat, at \$30.6 billion, and somewhat below analyst expectations.



■ Report Examines iPad Online Usage

According to NetApplications.com, the iPad has netted almost as much Web time as BlackBerry and Android devices. The Web metrics firm reported the iPad accounts for 0.03%, while BlackBerry and Android both grabbed 0.04% of the online usage share in March. The difference is that the iPad had only 10 days to pull in those numbers. Since preordering began on March 12, more than 500,000 iPads have been sold. However, the iPhone and iPod touch platforms kept ahead of the new device by capturing 0.6% of the online usage share. NetApplications.com looks at 160 million different visitors to client sites to come up with its numbers.

■ CenturyTel To Purchase Qwest

Louisiana-based telecommunications carrier CenturyTel is set to purchase Qwest Communications, effectively doubling its customer base to 17 million phone lines in 37 states. The offering price is a reported \$10.6 billion in stock, with Qwest employees receiving 0.1664 CenturyTel stocks for every Qwest stock they own. After the acquisition, CenturyTel shareholders will own more than half of the company's stock. Last year, Century-Tel purchased Embarq, another landline service company. CenturyTel is in the process of changing its name to CenturyLink, which is the name under which it trades. The deal is expected to be completed in the first half of next year.

COVER FOCUS

The Keys To Performance Metrics

Unlock Your Enterprise's Potential By Leveraging The Information You Gather

by Holly Dolezalek

In any IT environment, there's plenty to keep track of. Any IT manager can rattle off a baker's dozen of metrics that he or she could use to measure performance. In fact, the difficulty in succeeding with performance metrics isn't in coming up with metrics to track. It's in knowing what to measure, deciding whether those measures have any meaning for the organization, discerning what the data within those metrics means for the health and performance of IT, and figuring out what to do with the data once it's gathered.

Whatever metrics you're most concerned with, there are several mistakes to avoid so that you get the most out of measurements without missing their meaning. Metrics are meaningless by themselves; unless you define them appropriately and use the data for action, you might as well not track them at all. Here is a look at what it takes to successfully leverage performance metrics in your data center.

Know What You're Tracking

What you measure depends on what aspect of IT you're concerned about. You might be concerned with the performance of your network, for example, and so you might track how quickly the system responds to user interaction. That's why component metrics—measurements of how the switch, router, server, or other network equipment is functioning—are frequently on an IT manager's radar.

Application performance is just as pertinent as network performance. For that reason, metrics that track the performance of applications are also on the dashboard. That, in turn, brings metrics of user experience into the mix. Whether it's a customer-facing application or one used internally, metrics of user experience give context to network performance metrics. "Availability, especially for customers, is key, and it goes beyond simple performance of components," says Geoff Webb, senior manager of product marketing at NetIQ (www.netiq .com). "Your system can be running perfectly while some part of your database is thrashing and dying, but if you're not

Top Tip: Look Beyond The Obvious

The obvious metric isn't necessarily the right one to be tracking closely. "Many times, the metrics that organizations track are the comfortable ones that they're familiar with, not the ones they really need to track," says Ron Wince, CEO of Guidon Performance Solutions (www.guidonps.com). "For example, it is important to track uptime. But if it's already in range, focusing on uptime isn't going to drive additional revenue or cost savings."

In other words, although it's important to keep an eye on the metrics that are already in range, Wince recommends focusing your more in-depth metrics efforts on areas that can drive real efficiencies or behavioral changes in the organization.

looking at the right metrics, you can think that it's running great."

From the same standpoint, security metrics are another way to keep an eye on system performance, just as system performance metrics can give you insight into your security posture.

"System performance is often the first indicator of an attack or some type of security issue," Webb says. "When you have a business-critical system that's performing poorly or a database that's full or running slowly, the first question should be: Has something changed? If so, what? Was it a planned, managed process? Who did it, and why?"

Monitoring vs. Metrics

Monitoring thresholds isn't the same as tracking metrics. For example, monitoring a server's temperature doesn't tell you anything; it gives you a warning that it's about to blow, of course, but it tells you nothing about what that server is actually doing.

Key Points

- Not all metrics are useful. Decide which ones have meaning for performance and which ones simply describe performance.
- Metrics aren't useful in isolation. Make sure you have context for what you track so that you know what to do and what it means when the metrics change.
- Prioritize your metrics according to their importance and impact on factors outside of IT.

Thresholds are useful for preventing disaster but not for finding efficiencies or spotting developing problems. "In normal business usage, any metric you pick will have its own profile of normal," explains Webb. "Simple measurements aren't going to capture that profile." Webb gives the example of the spike in disk access and process loading in email utilization on Monday morning when many employees come in and start up their email at the same time. If that spike doesn't occur as expected, it's likely that a system has failed. But without know-

ing when that spike usually happens and taking account of it in metrics for email performance, you won't get the information you need when you need it.

"Taking metrics in isolation as static measures can be very misleading," Webb says. "So you need to set thresholds, but you also need a way to build an intelligent profile of the way that a system should behave so that you can quickly identify those times when it isn't performing appropriately."

Indeed, metrics aren't useful in isolation. By monitoring your devices, you can get a lot of information about port behavior, bandwidth, and other metrics, but you also need to know how the applications are performing as they pass through those devices. This becomes particularly important when you migrate applications to the cloud, says Steve Shalita, vice president of marketing for NetScout Systems (www.netscout.com). "Many organizations may have hundreds of applications running, and you have to be able to know about how VoIP, Web traffic, email, video, and other traffics are behaving," he says. "It's hard to track meaningful metrics if you don't know how different services are running and impacting each other."

Make Your Metrics Count

Don't track something just because you can. Ron Wince, CEO of Guidon Performance Solutions (www.guidonps.com), explains that his clients often make the mistake of tracking hundreds of metrics. "Sometimes people go ballistic on metrics," he says. "But it's better to get down to what's critical to the business and to prioritize your metrics based on what aligns to the strategy of the business." For instance, he says, a metric that relates—however remotely—to a company's market share should take priority over a metric that doesn't have a direct impact on the business.

In fact, Wince says, there's nothing wrong with tracking 80 to 100 metrics if that's what helps keep the business humming. But in that situation, it makes sense to give more weight to some metrics and less to others. "You can weight your metrics in your tracking to give more importance to the metrics that offer an opportunity for improvement," he says.

Decide on metrics from more than your own perspective. If you're using the wrong metrics or looking at them without the right context, you can be misled by your own data. "It's easy to track processor load or uptime and think everything is fine, but with any technology's performance, what matters is the experience of the user," Webb says. "You need to look at user behavior and user experience to figure out what metrics will tell you about their experience. That means figuring out what an end user sees, how you can model that, and what metrics will tell you what's not working right."

Shalita agrees. "When you know how users are using your systems, you know where the demand is coming from and which application is consuming available bandwidth, because in a lot of cases, per-

formance problems aren't coming from the network itself," he says.



News

Successful Risk Management

Mitigating Risks Means Protecting Your Enterprise From Security Threats, Hidden Costs & Damage To Your Reputation

by Chris A. MacKinnon

A SUCCESSFUL ENTERPRISE does not exist without solid risk management. And although it can be time-consuming and lower on immediate priority lists, risk management helps protect the enterprise from security threats and also helps to make sure that damage is as minimal as possible. Risk management is all about achieving information security and supporting business goals in the enterprise.

A Key To Success

Christian Malatesti, senior information security consultant with Enterprise Risk Management (www.emrisk.com), says that risk management is paramount in the data center. "Risk management is important to ensure that a methodical risk-based approach is used to identify the assets to be protected; the threats and their impact on those assets; and the controls to be used in order to prevent, mitigate, detect, and respond to those threats," he says.

In addition, Malatesti says risk management is a core component of an organization's IT governance. He says risk management ensures that adequate controls are in place to support the profitability of the business by mitigating the risks of security incidents and ensuring compliance with applicable regulations. He explains, "Risk management provides management with the information and tools to identify and prioritize the steps to take in order to achieve data protection, balance the costs, and support the organization's business mission." Malatesti says risk management requires the commitment of top management to ensure that the appropriate resources are allocated to the project and the necessary support is given, as risk management is not intended to be just a technical security concern.

Chris Richter, vice president of security services at Savvis (www.savvis.net), says that if structured properly, a risk management program can be an effective process for identifying, rating, and addressing critical problem areas. "Data centers, and customer configurations within them, can be complex," Richter says. "There are many risks related to company data, regardless of where it resides." He says common examples of company risk include income and revenue loss, lost reputation or brand damage, legal issues, loss of assets, and random expenses associated with risk.

Successful Implementation

Implementing risk management is a complex venture, according to Jeffrey Baldwin, vice president of alliances and technology at Syntex Management Systems (www.syntex solutions.com), who says this is because every organization is different in size, geographic location, business culture,

and system processes. He says, "Risk management success can be broken into the following: a corporate goal and top-level 'buy-in' to support change in the organization; an agreement that business processes and corporate culture play an integral part into the success of implementing risk management across the enterprise; and recognition that a software tool can aid in the organization and tracking of business process execution, reactive and proactive data gathering, and business cultural change."

Baldwin says that in most enterprises, a successful software product integrates with or replaces multiple software applications that have various operational risk management objectives while providing a central conduit for more open risk communication between leadership and the workforce.

In Richter's opinion, the first step to successful risk management is to develop a formal program that begins with a comprehensive risk assessment (including an asset evaluation). "A solid risk management program can potentially help improve a company's business efficiency, reduce its risk exposure, and thus improve its performance and bottom line," he explains. "The key benefit of a risk assessment is that it can actually help enterprises reduce the number of controls they are required to implement. It does this by identifying those IT assets that need to have strong controls and those assets which, based on their risk ratings, require less stringent controls."

Avoid Potential Problems

According to Malatesti, it is part of the risk management approach to evaluate risks-including the advantages and deficiencies affecting a given solution. He says risk management provides a methodical and empirical approach to evaluate both aspects, guide management to make an informed decision, and measure the ROI. He adds, "Risk management provides a methodology to identify alternative solutions, also known as compensating controls, that can be implemented to mitigate risks discovered during the risk assessment and when the implementation of a direct solution is not feasible due to technical difficulties, excessive cost, etc."

Malatesti says risk management resides at the foundation of any sound IT security strategy because it dictates the steps and prioritizes the activities necessary to achieve information security and support business goals. "It provides the broad picture of where an organization stands in terms of security, business continuity, and compliance," he says.

Baldwin recommends starting with a particular group, location, or organization as a pilot when implementing an enterprise-wide risk mitigation solution. "In this manner,

Key Points

- A risk management strategy identifies threats to an organization's assets and lays out the controls required to prevent, detect, and respond to threats.
- Potential risks that threaten SMEs include loss of property and income, legal issues and costs, and damage to the company's image.
- Although risk can never truly be eliminated entirely, having an effective plan in place can help mitigate the risk and control costs.

derived for security, storage, and network management and then decisions can be made regarding the flexibility allowed within each group, location, or organization as the solution is deployed," he says. "Also, a detailed implementation plan, including resource requirements and assumptions, should be developed and agreed on during the solution planning phase of an enterprise implementation project." He says a project-steering committee should also be formed from representative management to make key decisions and track progress.

Richter cautions readers about creating risk management programs with too many controls. He says this can actually impair a company's risk management efforts. "If implemented properly, a risk management program should improve the bottom line by making companies more secure, more efficient, and less likely to incur a loss of highvalue data assets," he says. "To avoid the problems associated with a poorly designed and implemented approach to risk management, IT professionals should follow established guidelines for governance, risk, and compliance (GRC) best practices and possibly seek guidance from a reputable risk management consultant or service provider who is skilled in GRC."

Richter says companies can never completely eliminate risk. The objective, he says, is to reduce risk to an acceptable level at an acceptable cost through the application of a risk mitigation process.

Top Tip: Check Your Progress In Stages

According to Jeffrey Baldwin, vice president of alliances and technology at Syntex Management Systems (www.syntexsolutions.com), a successful risk management methodology uses a stage gate process to review and agree on progress. The stage gates and decision criteria are:

Phase 1: Solution Planning. Agree on the detailed implementation project plan, including timing and resource requirements.

Phase 2: Solution Design. Agree and sign off on process flow diagrams.

Phase 3: Solution Configuration. Agree and sign off on configuration workbooks. Also successfully test the configured and piloted solution.

Turn the pilot group, site, or location live and validate that all project components are delivered in the data center environment and that all technical functions are working properly.

Global Agencies Agree On Energy Efficiency Metric

Global industry groups and government agencies have taken what's been hailed as a significant step toward creating a set of globally accepted metrics for data center energy efficiency by agreeing to use PUE (power usage effectiveness) as the industry's preferred energy efficiency metric.



The Green Grid, a consortium of IT companies and developer of PUE, was instrumental in leading the agreement among the U.S. Department of Energy's Federal Energy Management and Save Now groups; the U.S. EPA's Energy Star program; European Union Code of Conduct; Japan Ministry of Economy, Trade, and Industry's Green IT Initiative; and Japan's Green IT Promotion Council.

"It is hard to overestimate the significance of this global cooperative effort," says Lawrence Vertal, executive director of The Green Grid. "A clarity of language, definitions, and metrics is an essential foundation for coordinated global progress around energy efficiency. Clear and well-defined language for the way we communicate about energy efficiency and a common set of metrics gives all the stakeholders a common measuring stick for all data centers regardless of their location in the world."

Standard Calculating Method

Despite agreeing to use PUE, which divides the total energy a data center uses by the power that's needed to run its IT equipment to determine the energy lost to mechanical and electrical equipment, the groups still must decide on a standard method for calculating PUE.

"Measuring PUE requires only two measurement points, but the requirements on how to and when to measure and report the PUE measured values can become significant if the submetering is not in place and there is variance beyond The Green Grid published guidelines on how to measure and report your PUE values," says Jon Haas, an Intel director and The Green Grid's technical committee vice chairman. The Green Grid states that various members of the global groups will continue moving the initiative forward and plan to meet later this year to discuss progress.

As far as a timeline goes for when data centers might see mandates put in place for collecting energy efficiency measurements based on PUE and other metrics, Vertal says, trends and legislation are already underway in the UK and Japan that will require energy efficiency reporting for data centers and IT and are tied to the relationship between energy use and carbon footprint. However, he says, roadblocks exist, including the creation of "reporting systems that are able to properly award good behavior by the regulated without onerous reporting schemes or methodologies."

by Blaine Flamig



PRODUCT SPOTLIGHT

PHYSICAL INFRASTRUCTURE

Data Center Fire Suppression

Produc

Ansul Sapphire Fire Suppression System



Description

Ansul's Sapphire Fire Suppression System is a total flooding system that uses Novec 1230 fire protection fluid. Novec fluid is environmentally friendly, contains no ozone-depleting materials, and has a global warming potential of 1.0 and an atmospheric lifetime of only five days.

- · Total flooding effective on class A, B, and C fires
- Suppression fluid is released through a network of pipes and nozzles
- Clean agent is appropriate for protecting highvalue assets

Best For: Data processing centers, tape storage, and telecommunications centers.

Fike ECARO-25



Fike's ECARO-25 pairs DuPont's FE-25 fire extinguishing agent with Fike's rupture-disc valve to offer greater agent coverage and distribution. Unlike sprinkler systems, the FE-25 agent is safe for sensitive computer equipment. The agent also won't harm facility workers and is environmentally friendly, with zero ozone depletion potential.

- Colorless, odorless, and leaves no residue, requiring no cleanup
- · Minimizes business downtime due to fire
- Can be used in occupied and unoccupied spaces
- Electrically nonconductive

Best For: IT systems, telecommunications centers, control rooms, computer rooms, and media storage.

Fireaway Stat-X Electrically Operated Units



Stat-X Electrically Operated Units from Fireaway produce an ultra-fine potassium-based aerosol that is safe for electronic equipment or magnetic media. Electrically operated units can be manually or automatically activated and, unlike gaseous systems, do not require pressure vessels or piping. In addition, electrically operated units are lighter and take up less space than other extinguishing agents.

- Suitable for enclosed facilities and local applications
- · Not harmful to personnel
- Can be quickly vented after discharge for easy post-fire cleanup
- Environmentally friendly with zero ozone depletion potential

Best For: Critical applications across a range of industries, including data processing facilities, process control rooms, and telecommunications facilities.

Contac

(800) 558-5236 www.ansul.com (816) 229-3405 www.fike.com (952) 935-9745 www.statx.com

Produci

FireXonline OnGard



Description

The OnGard fire protection system from FireXonline consists primarily of a tank filled with fire-suppressing agent. A tube connected to the tank delivers the suppression agent directly to a potential fire site, such as the inside of a rack enclosure. When a fire is detected, the tube will rupture and release the agent into the area. Extinguishing a fire at the source may eliminate the need to discharge a computer room's larger suppression system.

- Penetrates hard-to-reach areas
- Detects and extinguishes fires in less than 10 seconds
- Reduces downtime caused by data center fire

Best For: Data centers, computer rooms, and communications facilities.

Periphman Aero-K



Periphman's Aero-K fire suppression system uses potassium-based aerosol generators that can extinguish a fire in seconds. The aerosol won't harm electronics or electronic media such as tapes and disks or the health of facility personnel. Aero-K aerosol generators are compact and easy to install and feature multiple smoke detectors that limit the chance of accidental discharge.

- Won't corrode steel, plastic, nickel, brass, zinc, copper, aluminum, or other commonly used composites
- Leaves little residue after venting
- Ecologically friendly with no agents that can harm the ozone layer
- Control panel with battery backup in case of power outage

Best For: Information technology and telecommunications industries.

Victaulic Vortex



The Victaulic Vortex fire suppression system is the world's first-ever hybrid (water and inert gas) fire extinguishing system that extinguishes fires without the use of any toxic chemicals by deploying a high-velocity, low-pressure mixture of nitrogen and water. The system delivers as little as one gallon of water per emitter per minute, and each emitter can protect up to 2,500 cubic feet. The system is compatible with facility fire protection systems to provide greater design flexibility, and it is recharged rapidly allowing for a return to working conditions almost immediately after a fire.

- Nearly zero wetting of protected areas
- No ozone depleting or greenhouse gas emissions
- Quick system recharge to support minimal facility downtime
- Protects people and assets

Best For: Protection of enclosed cabinets and isolated equipment within protected spaces.

Contact

(800) 338-9010 www.firexonline.com (800) 468-6888 www.server-room-furniture.com (800) 742-5842 www.victaulic.com *Processor*'s Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Kris Glaser Brambila

Fireaway Stat-X Thermal Units



Fireaway's Stat-X Thermal Units emit an ultra-fine potassium-based aerosol that won't harm sensitive electronic equipment or magnetic media. Thermally operated units integrate a thermal detector that automatically activates the unit in a fire situation. Thermal units can also be manually activated. Thermally operated units have a low installation cost, are virtually maintenance-free, and have a shelf life of more than 10 years.

- Easy installation that doesn't require pressure vessels, piping, or installation manpower
- Occupies less space than other extinguishing agents
- Environmentally friendly with zero ozone depletion potential
- Favorably reviewed by EPA for SNAP listing

Best For: Electronic cabinets, data processing equipment, and printing equipment.

(952) 935-9745 www.statx.com

Xtralis VESDA ECO



Xtralis has extended its market-leading VESDA very early warning ASD (aspirating smoke detection) system to include reliable gas detection and environmental monitoring. VESDA ECO from Xtralis uses new or existing VESDA ASD pipe networks to actively sample air for the presence of smoke and up to nine hazardous and/or combustible gases. Integration with other building systems delivers real-time situational awareness and intelligent emergency response.

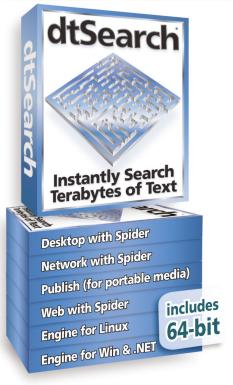
- Leverages existing VESDA ASD pipe networks to cost effectively detect both smoke and gas
- Provides detection of multiple gases through simple expansion without major construction or retrofitting
- Reduces energy consumption and costs through demand-controlled ventilation
- Works in harsh environments
- Integrates easily with building systems such as FACP, PLC, HVAC, and BMS

Best For: Battery-charging rooms, clean rooms, underground utility tunnels, and other critical areas.

(800) 229-4434 www.xtralis.com



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PRODUCT SPOTLIGHT

PHYSICAL INFRASTRUCTURE

Data Center Furniture

Produc

Data Center Resources Command Watch Workstations



Description

Command Watch adjustable-height sit/stand workstations from Data Center Resources feature push-button controls that adjust the height of the monitor and keyboard surfaces. This capability allows for a welcome change of position to improve operator comfort and prevent muscle fatigue. The adjustable-height Command Watch workstations can be used as standalone solutions or integrated with the standard Command Watch fixed-height product. Integrated cable management allows the monitor surface to rise without crimping or pulling cords.

- Adjustable-height work surface (22 to 72 inches)
- · Laminate work surface with polyurethane edging
- Independently adjustable keyboard/work surface
- · Optional monitor arm able to handle up to eight displays
- Optional CPU system storage
- Brush grommets for cable drops
- Optional integrated power distribution units
- Integrated cable management
- Standard 36-inch depth

Best For: 911 emergency dispatch centers and network operation centers.

Data Center Resources Secure Cart



Data Center Resources' Secure Cart is a mobile, adjustable-height server room crash cart with a lockable compartment to house a notebook computer. Casters provide mobility to easily move the cart to the target device. Users can sit or stand to perform service and then lock away their notebooks to prevent unauthorized access. An optional crash cart KVM delivers the VGA stream from any host computer to the notebook and emulates mouse and keyboard for simple access and control of connected servers, PCs, or other "headless" devices.

- Height-adjustable work surface for sit/stand capability
- Notebook storage bin closes and flips into locked position
- Optional integrated USB KVM for full control of target device from notebook
- Optional integrated 900VA UPS

Best For: Secure data centers.

Hergo Motorized Height-Adjustable Workstation



Hergo's top-grade adjustable-height computer workstation is available with a 48-inch or 60-inch wide desktop. The high-pressure laminated work surface and heavyduty wood base have a tamper-resistant edging commonly used in environments where hygiene and edge bond are important. This electrically powered workstation comes equipped with a control pad that is mounted underneath the desktop and has a motion range of 24 inches with a maximum and minimum setting of 56 and 32 inches, respectively.

- Weight capacity is 150 pounds per leg when weight is evenly distributed
- Steel reinforcement plate for wood base
- Base unit ships fully assembled in a crate
- Options include flat-panel arms, keyboard/mouse tray, power strip, CPU holder, and storage bin

Best For: Work environments where flexible sit/stand access is crucial.

Price: \$2,095 for 48-inch desktop or \$2,175 for 60-inch desktop with all available options (shipping not included)

Contact

(866) 740-2121 www.datacenterresources.com (866) 740-2121 www.datacenterresources.com (888) 222-7270 www.hergo.com

Product

Rackmount Solutions Heavy Duty LAN Rack/Computer Station



Description

The Heavy Duty LAN Rack/Computer Station from Rack-mount Solutions is designed for heavier equipment loads, with each shelf supporting more than 850 pounds. All shelves are adjustable on 1-inch increments and may be placed anywhere on the frame. This workstation features a high-quality tube steel frame and unlimited variations when combining different LAN station widths, plus corner stations.

- Fully welded 4-post frame with 2-square-inch, 14gauge steel virtually eliminates vibration
- 14-gauge steel horizontal back panels for maximum strength and stability
- Available in 36-, 48-, 60-, and 72-inch widths; 84 inches high
- 1.25-inch thick work surfaces support more than 850 pounds each
- LAN rack ships fully enclosed in a shipping crate to protect from damage

Best For: Anyone who needs shelving that can support heavy loads or flexible configurations.

Price: Starts at \$1,154

(866) 207-6631

www.rackmountsolutions.net

Rackmount Solutions Recessed Monitor Corporate Training Tables



Rackmount Solutions' heavy-duty corporate training room tables allow plenty of surface space for manuals and workbooks while giving users lines of sight to the moderator and any video instructions being displayed in the front of the room. These tables are customizable with a variety of LCD mounts and keyboard trays.

- Choose from stock 36-, 48-, 60-, or 72-inch widths or a custom configuration
- Dropped monitor platform is on a 22% angle, 4 inches in front and 7 inches in back for clear view of instructor
- 14-gauge steel legs and 1.25-inch thick laminated table surface make these units almost indestructible
- Table adjusts from 26 to 32 inches high to accommodate various employee heights
- Includes out-of-sight cable management under the table surface

Best For: Corporate training areas that require versatile, highly durable tables that must cater to multiple users and frequent ergonomic adjustments.

Price: Starts at \$308

(866) 207-6631 www.rackmountsolutions.net

Rackmount Solutions Bravo Power Corporate Training Tables



Power Corporate Training Tables from Rackmount Solutions make it easy to connect your monitor, Internet, and additional peripherals to Rackmount's heavy-duty corporate training room tables by using a recessed, popup, or under-table power source. These tables are customizable with a variety of LCD mounts and keyboard trays and are ideal for environments where a power source on the table enhances usability and convenience.

- Choose from stock 36-, 48-, 60-, or 72-inch widths or create a custom configuration
- Common power modules used are two CAT 6 RJ-45 and two 15A/125V receptacles with circuit breaker, but modules can be interchanged to fit your needs
- Heavy-duty 14-gauge steel legs and 1.25-inch thick laminated table surface make these units almost indestructible
- Superior strength supports 900 pounds

Best For: Corporate training areas that require versatile, highly durable tables with the convenience of power built in.

Price: Starts at \$388

(866) 207-6631 www.rackmountsolutions.net

Contact

PRODUCT SPOTLIGHT

PHYSICAL INFRASTRUCTURE

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Kris Glaser Brambila

Office Organix Viking Banana Table Lite



The Banana Table Lite, manufactured by Viking Acoustical and offered by Office Organix, is a dual-surface workstation that allows independent height adjustment of both the front and rear surfaces with the touch of a button. The Banana Table features a steel-constructed base and a cable management trough on the rear surface for organizing wires. In addition, the Banana Table features a durable laminate work surface that can be constructed in several laminate colors.

- Supports up to 450 pounds of equipment on each surface
- Surface measures 71 inches wide x 48.5 inches deep
- Quiet electric motor with push-button operation
- · Adjusts from 28 inches to 48 inches in seconds
- Custom top sizes available upon request
- Extended sit-to-stand range option available with 25- to 50-inch range

Best For: 911 dispatch/emergency centers, IT support centers, research laboratory environments, and technical control centers.

Price: Starts at \$2,999

(800) 569-9236 www.officeorganix.com

Rackmount Solutions LAN/Rack Computer Workstation



Rackmount Solutions' LAN/Rack Computer Workstation is a modular system featuring thermally fused laminate shelves, T-mold finished edges, and a high-quality tube steel frame. Each shelf supports a load of 350 pounds, and the upper shelves are adjustable in any increment.

- Assembles in about 20 minutes
- Available in 24-, 48-, 72-, and 96-inch widths; height is adjustable from 60 to 80 inches
- · Neutral color complements any decor
- Knocked-down design allows for easier and less expensive transport to your facility

Best For: Anyone who wants to organize and access equipment in an office, closet, or data room.

Price: Starts at \$449

(866) 207-6631 www.rackmountsolutions.net

Uptime4u Anthro Elevate Electric Lift Corner Dispatch Console



The Anthro Elevate Electric Lift Corner Dispatch Console available from Uptime4u utilizes the space-saving design of a corner console combined with the ergonomic benefit of an electric-lift adjustable-height unit. Six or more flat-panel monitors can be fully utilized while keeping everything within easy reach of the user. Network cables are efficiently routed to prevent work surface clutter.

- Fits true to corner and utilizes every inch of wall space
- Console height adjusts quickly and quietly at 1.5 inches per second
- Maximum flexibility with keyboard/mouse platform that swivels, tilts, and moves in and out and up and down
- Sturdy steel legs are mounted solidly to base and frame

Best For: Data centers, control rooms, computer rooms, and dispatch and 911 centers where users need ergonomic adjustability and modular design in a heavy-use environment.

Price: Starts at \$3,500

Uptime4u EDP Contour Advance Data Center Console



The EDP Contour Advance Data Center Console available from Uptime4u offers easy adjustment of sit/stand features at the press of a button. Ergonomic design combines with durable construction, flexibility, and well-planned wire management in this console solution. Numerous configurations are available for your specific needs, including single, double, and team workstations. This console is engineered to withstand frequent usage and to meet public safety sector standards.

- All-steel frame construction offers long-term resilience, even in 24/7, multishift environments
- Independent height adjustments for keyboard and monitor deck
- Accommodates a wide range of accessories, including display arms, whiteboard inserts, and acoustical fabric wraps
- Secure storage of dedicated CPU modules either beneath work surface or in a matching enclosure

Best For: Data centers, control rooms, computer rooms, and dispatch and 911 centers where users need ergonomic adjustability and modular design in a heavy-use environment.

Price: Starts at \$8,000

(800) 222-1440 www.uptime4u.com (800) 222-1440 www.uptime4u.com



The U.S. Department of Energy awarded Lockheed Martin two grants worth \$1 million to study the commercialization of OTEC (ocean thermal energy conversion) technology, which uses the temperature difference between the warm and cool layers found in oceans to produce electricity.

Lockheed has two goals: to determine how much energy can be drawn from the thermal layers within oceans and whether large-scale OTEC systems are economically feasible. With the first grant, Lockheed will develop a tool to estimate the amount of energy that can be generated by taking advantage of the natural thermal gradient of oceans. It will also identify regions that are viable for OTEC and SWAC (seawater-based air conditioning). This resource mapping will make it easier for policy makers in government and the energy industry to determine the viability of these two technologies.

Lockheed will use the second Energy
Department grant to develop performance
and lifecycle cost estimates to determine
OTEC technology's economic viability on a
large scale. If the data is positive, Lockheed
says, it will provide "justification for pursuing
commercialization of OTEC and generate
investment interest in this stable, renewable
energy source." If they mature, OTEC and
SWAC technologies could help data centers near the coast meet their energy and
air-conditioning needs.

Making OTEC & SWAC Work

An OTEC system uses the temperature difference between solar-warmed surface water and cold, deep water to run a heat engine, which produces electricity. Because the sun continually warms the planet's oceans, this technology could serve as an inexpensive, clean, renewable source of energy.

In a SWAC system, cold water is pumped from deep beneath the ocean's surface to a station onshore where it is used as air-conditioning coolant. After it has circulated through the system, the water is then pumped back into the ocean. Lockheed says this system has the potential to reduce utility loads during the summer, when electricity demand is high. SWAC technology is already being tested in Honolulu and other places around the world.

This isn't the first government grant Lockheed has received to study OTEC technology. Last year, the Department of Defense awarded the company \$8.12 million to develop OTEC system components and an OTEC pilot plant. In 2008, the Department of Energy contracted with Lockheed to create special piping that would be used to carry the large amounts of cold seawater necessary for a utility-scale OTEC power plant.

by Kyle Harpster

Develop A Backup Cooling Plan

Keep IT Cool In The Summer

by Sue Hildreth

As the temperatures rise outside, so does the need for reliable AC inside the data center. Nothing can bring a business to a halt faster than a network or email server that is down for the count, which can happen quickly if the data center equipment gets too hot. Temperature is, in fact, a major cause of failure in data centers, experts say.

Cooling catastrophes can happen at any time. It could happen in the middle of the night or on weekends when important business may be going on via an e-commerce server or in data processing, but few people are on duty in IT to troubleshoot an emergency. The problem is even greater for small companies that have fewer IT employees to put on the midnight and Saturday shifts.

As summer approaches, cooling experts recommend that data center managers take a few preventive steps to help ensure that their air-conditioning units keep running smoothly.

Backup AC & Power

If the power goes out or the air conditioning fails, it is a good idea to have a generator and either a backup AC unit or a portable unit that can be rolled in and directed at the most critical equipment.

"Redundancy is key to success," notes Michael Petrino, vice president of PTS Data Center Solutions (www.ptsdcs.com). The size of the generator will depend on how many systems you need to keep up and running and for how long. A UPS is good for bridging the gap between an outage and when the generator kicks in, usually a few minutes. But Petrino notes that a UPS can be doubly helpful by keeping the fans of the AC going, even if the cooling ability is lost. "Put the fans on the UPS such that during a failure, the fans will keep the air moving in the data center and use the residual thermal capacity of the system."

It may not be cost effective to keep enough generators and portable ACs on hand to power the entire data center during an outage. So have a plan for what systems will be shut down if necessary and which ones will be considered critical. "You can shed some things that aren't critical to the business; for instance, you might keep up your Web server if it receives orders but shut down the email or other servers," says Dave Kelley, director of application engineering at Liebert Precision Cooling (www.liebert.com), part of Emerson Network Power.

Some companies, such as MovinCool (www.movincool.com), make rolling AC units that can be stationed directly in front of the equipment most in need of cool air, notes Michael Sigourney, senior product specialist at AVTECH (www.avtech.com), which keeps a portable AC unit on hand in case of problems. Another option is to have dual AC units, making sure to switch usage to the redundant unit regularly to make sure it's working.

Heat-Proof The Computer Room

Make sure the floors, ceilings, and walls are insulated and, as much as possible, close off potential sources of warm air, such as cable holes in a raised floor or windows. Sigourney says that in one building, AVTECH's IT staff reduced the temperature of a computer room by 15 degrees by putting 3-inch-thick plywood over a window that faced south and caught much of the daytime sun. In addition, Petrino says that all pipes should be insulated to prevent thermal loss and the buildup of condensation.

That not only slows the loss of cold air and makes emergency AC units more effective but also saves on electricity bills over the long haul. IT research firm Gartner has estimated that as much as 35 to 50% of the electrical energy consumed by a typical data center goes to cooling.

Monitor For Temperature & Humidity

When the temperature starts to rise, you want to know about it quickly, before the servers overheat. Much AC equipment has temperature monitoring built into the controls, says Kelley, so that IT staff can keep a preventive eye on the unit's condition. It's also helpful to install additional temperature monitors as well as monitors for humidity, water, and other environmental conditions that could affect the performance of the equipment. They can be put in the racks or around the data center where hot spots might be, so you'll be alerted to unusual spikes in humidity or temperature.

Key Points

- Have backup AC or a portable AC unit and power generators on hand to protect critical equipment in the event of a failure.
- Keep spare parts available so you can repair a faulty AC without having to wait for parts to be delivered.
- Monitor for changes in data center temperature or humidity. Alerts should be sent to several different people to ensure someone can address the problem.

The monitors will sound an alarm if certain thresholds are crossed, and Sigourney recommends having several alarms go out to different people, in case one person is not available. "You must have a monitoring system that has alerting, and not just to one guy but to different individuals through all modern technologies. You don't want it sending one email to a desktop that no one is at or ringing a phone that no one answers after 8 p.m." Petrino also suggests tracking the rate of change, both of temperature and other things going on in the environment, "such as when a compressor is turning on and off quickly."

Preventive Maintenance

First, update maintenance contracts and parts inventories. Make sure your AC service contract is up-to-date before the summer comes and that you can get a maintenance person in to fix a problem quickly. It also pays to keep spare parts on hand, so maintenance can be accomplished without having to wait for a part to be delivered. You can get a list of key spare parts from the AC manufacturer or, in many cases, off the side of the unit itself.

"The main things to avoid are simple maintenance issues like making sure you have clean filters in the unit. If the filters get very dirty, it will restrict airflow," says Kelley. "That might not cause an outage but will reduce the performance of the unit." He points to other ways to prevent failure, such as keeping the coil in the outdoor condenser clean from pollen, dirt, smog, salt, and other airborne pollutants.

Have A Plan For Action

When the temperature spikes or the power shuts down, you need your IT staff to react quickly to get generators on or switch to backup AC units—whatever has to happen. You don't want them deciding how to react after the lights are out. That means writing a Plan B for how to handle both an AC failure and a power outage, as well as any other emergency that might happen.

"It comes back to a training thing. Do your people know what to do if there's an outage, is there something documented that says, if we get an alarm here, then we do this, or do you have people scrambling around asking questions? You need to have some documentation telling everyone what they should do," says Sigourney. "Unfortunately, that's usually the last thing on everyone's to-do list, and suddenly you have a crisis and you never got it done."

Tips For Reducing Cooling Costs

Summer can also be an expensive time in terms of air conditioning. IT analyst firm Gartner suggests some steps for reining in those costs.

- 1. Install blanking panels over unused rack positions to prevent hot air from flowing through it into the cold-air intake of another piece of equipment.
- 2. Clear cables out from under the floor. Tangled cables can block airflow, inhibiting efficient circulation of cold air.
- 3. Install variable-speed fans and pumps. Adjusting the speed of fans and pumps can help reduce energy costs.
- 4. Raise the data center temperature. An increase of 1 or 2 degrees—to 76 degrees, for instance—can reduce overall expenses without risking data center overheating. (However, increasing the temperature also decreases the amount of time you have if the AC fails.)

Source: Gartner's "How to Save a Million Kilowatt Hours in your Data Center."

The Move Toward Environmental Monitoring

Past Problems, Experience Drive Enterprises To Implement Monitors

by Sue Marquette Poremba

Environmental monitoring of data center space has been the blessing and the bane of many industries, including large data centers and small server rooms.

"Blessing in that environmental monitoring has prevented companies from incurring catastrophic loss of equipment, product, and information due to unplanned events," says Dave Ruede, vice president of sales at Temperature@lert (www.temp eraturealert.com). "Bane in that they can be costly to implement and maintain, provide too much information to be useful, send false alerts or no alerts when needed, and otherwise cost companies time and money to respond and implement corrective actions so they will not occur again. The problem has been to discern between what is needed and useful vs. what is redundant or unnecessary."

Early data centers and server rooms weren't well planned. Companies found whatever space was available—often an unused office, a large closet, or rooms with poor ventilation or near a water source such as restrooms. Today, however, more companies understand the importance of environmental monitoring and

Environmental Monitoring = Green Improvements

Environmental monitoring can play an important role in a company's green efforts and save money by decreasing electricity usage. During the past couple of years, companies that once monitored only high temperatures are now also monitoring overcooling. The old trend was to get as much air conditioning as possible in the data center. Now the concern is to avoid consuming too much power. To lower energy consumption, temperature is kept at a more specific point, and monitors can send an alert when the cooling system needs to kick on.

are remodeling and actually planning the new space.

Risk vs. Reward

Environmental monitoring systems are like car or home insurance: They are best implemented after a rigorous risk vs. reward calculation. Not every company is going to need the same levels of monitoring, and not every company will be able to afford to monitor for every possible catastrophic event.

The most basic need is to monitor temperature, and temperature systems are not only the most popular seller for most companies, but they have the most accessible price range for any size of business.

"Heat is the No. 1 thing that brings computer equipment down, lowers the mean time between failures, or makes people uncomfortable," says Michael Sigourney, senior product specialist at AVTECH (www.avtech.com). "If people are uncomfortable, it may be an indication that the machines are uncomfortable. If it is 90 degrees for a person, it may be 140 degrees inside a rack cabinet, so given you lose a significant amount of power when the temperature goes above 80 degrees, the computer loses its ability to function as it gets hotter."

Other potential hazards to consider monitoring include power, humidity, cooling, flooding, fire, smoke, vibration analysis or earthquakes, and intrusion. Deciding what, if any, monitoring system your company needs will depend on factors unique to your business and how much risk you can take in planning for the unexpected.

Business location plays a role, and in every region of the country, there will be some situations that can be anticipated. For example, in the South, humidity is an issue; in California, there are brownouts; and in the Northeast, there can be wild temperature fluxes. However, no one in New England expected the floods in early April, nor did the businesses in Florida expect freezing temperatures in January, both situations that affect server capabilities.

Key Points

- · Temperature, power, humidity, flooding, smoke, and intrusion are top areas to be monitored.
- Company location and threat of risk are major factors to consider when installing environmental monitoring systems.
- One new trend in monitoring equipment is to have a system not tied into the computer network or power system; cellular devices provide timely alerts and don't risk shutting down if power is lost.

Human error also needs to be considered because something as simple as an employee pulling the wrong plug by mistake can wreak havoc. Having monitors may not save the company from a major disaster, but when the disaster is small, it's critical to have monitors that can send out an alert in seconds.

"Again, the trick is to know what is needed and how much sensing gives the correct mix of protection (data, equipment loss, business loss, etc.) vs. annoyance (momentary power glitch alerts, etc.)," says Ruede.

Leading The Trend

So what is leading the trend toward environmental monitoring? One factor is past experience, such as a company suffering server loss because of environmental issues and no one wanting to risk a repeat occurrence. Investor pressure to keep the servers running also drives companies to ensure better monitoring practices. Another impetus is the data centers and servers themselves: Enterprises need the ability to quickly monitor and sort through information, including the use of powerful algorithms to harvest the important and urgent from the noise, and this has meant companies can have it all and not be needlessly inconvenienced.

One size doesn't fit all when it comes to sensors and the software, says Chuck Rathmann, analyst for IFS North America (www.ifsworld.com/us). Because of this, sensors of all types, shapes, and sizes are growing in number and function. Ruede says that temperature, relative humidity, liquid spills, and power are the traditional measurements of interest.

Expanded-range sensors, such as ultralow temperature sensors, are becoming more accurate, reliable, and cost effective, extending the range of environments where such devices can be used. External extended-range temperature sensors could be used in extreme outdoor conditions to alert facility managers when their HVAC control systems will need to provide nearcapacity performance. In addition, they can help make decisions about adding additional heating or cooling to existing facilities and, when considering new data center hardware, finding out whether current systems can handle the additional heating or cooling requirements.

Increasingly, enterprises are turning toward environmental monitoring tools such as cellular devices with alert systems not tied to company networks or power. Small, easy-to-use and -implement cellular devices with browser interfaces to noncompany servers provide timely reports when conditions change and systems are not operating properly from power loss during storms or unplanned power company outages, for example.

The software advances not only provide remote alerts to employees but also have the ability to shut the system down if necessary, automatically relocate processing from one server to another, or start a backup.

Sigourney says customers are often unsure of the difference between digital sensors and switch sensors. Digital means you get an actual reading from the sensor. A standard switch sensor means it is either on or off.

The Best Approach

When starting out, perhaps the best approach is to purchase a small monitoring system—something inexpensive that monitors temperature—and see how it fits your needs. According to Sigourney, the majority of customers aren't sure what they want or need when making the first purchase, but the vast majority of customers return within a year to purchase more equipment.

In the end, a company deciding whether implementing environmental monitoring systems is the right direction may want to heed Sigourney's advice: 25% of all data centers will go down each year. "In today's world," he says, "if you aren't online, you're out of business."

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16 ports and 4 IP users: Adder turns up the heat on existing KVM over IP technologies

New CATxIP5000 challenges existing enterprise KVM perception

simultaneous IP connections to-The AVX5016 IP is very small and your unique installation. compact enabling you to fit two units side by side to support 32 computers and 10 sessions in just 1U of rack space.

The AdderView AVX5016 IP Using Adder's CAM modules, the culmination of Adder's you can connect the switch KVM over IP expertise. This new via CAT5e cable to any type of device offers 4 non blocking server including PC, Mac and Sun. Country code reporting, gether with a local port (5 sepa- DDC and continuous keyboard rate users), and allows the user and mouse emulation further to control 16 separate devices. ensure faultless operation across



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PRODUCT SPOTLIGHT

VPN & Remote Connectivity

Produc

ANX OfficeScreen Complete

ANX PositivePRO

Aruba Networks 651 Branch Office Controller



Description

OfficeScreen Complete is a cloud-based site-to-site VPN service that supplies fully managed security for remote network access. The software-as-a-service offering receives frequent security updates for its unified threat protection role and acts as a firewall, too.

- Provides traffic shaping and Web content filtering capabilities
- Managed service with failover protection
- Aids in compliance with HIPAA, Sarbanes-Oxley, PCI DSS, and more

Best For: Companies with remote workers and regulatory compliance obligations.

Price: \$180 per month for 10 users

Hosted in a carrier-class data center, ANX PositivePRO is a cloud-based remote and site-to-site connectivity solution that is intended to provide SMEs with secure, intuitive access to a network at a reasonable price.

- · Policy-based rules
- Endpoint security scans
- Dynamic authentication in real time
- · Live chat support with trained personnel
- Zero hardware requirement

Best For: Multisite organizations and companies with remote employees, preferred vendors, and/or customers with network access needs.

Price: \$199 per month for 10 users

The Aruba Networks 651 Branch Office Controller is an all-in-one device that comes with 802.11a/b/g/n connectivity. Along with other members of the 600 series lineup, it's both a router and a site-to-site VPN solution for the edge of the network. Additionally, Aruba says the device is easy to configure and use.

- Hands-free remote management deployment option
- · Print and file server capabilities
- Built-in firewall for Wi-Fi and Gigabit PoE+ ports

Best For: Branch offices, teleworkers, and SMEs.

Price: \$1,470

Contac

(877) 488-8269 www.anx.com (877) 488-8269 www.anx.com (408) 227-4500 www.arubanetworks.com

Droduct

Check Point VPN-1 VE



Description

The preconfigured Check Point VPN-1 VE is a certified virtual appliance for VMware ESX and ESXi servers. It protects virtualized environments from threats both external and internal, shielding virtual systems even from each other for regulatory compliance. It combines VPN, firewall, and IPS to secure VMs, applications, and network traffic.

- Delivers comprehensive and extensible security to protect your VMware environment in a single virtual appliance
- Protects against emerging threats with the Check Point Update Service
- Enables unified management of physical and virtual environments

Best For: Data centers with virtualized assets.

Price: Starts at \$7,500

Juniper Networks SA2500 SSL VPN Appliance



Juniper's SA2500 provides secure access for both mobile and static devices. Part of the company's SSL VPN lineup, the SA2500 can support up to 100 concurrent users and offers high availability with failover protection.

- Features dual Gigabit ports
- Supports terminal services, VDI, Web, CRM, ERP, email, calendaring, contacts, and more
- Features provisioning by purpose: clientless core Web access, client-server application access, and full Layer 3 VPN

Best For: Small to midsized enterprises with secure remote access or business continuity requirements.

Price: Starts at \$4,995 for 10 concurrent users

Juniper Networks SA4500 SSL VPN Appliance



The SA4500 is the middle entrant in Juniper's SSL VPN Appliance family. It can support up to 1,000 concurrent users as well as provisioning by purpose. This 1U, hardware-accelerated SSL VPN device has two 1Gbps Ethernet ports.

- Seamless failover to redundant hardware
- Mobile and static device support
- Integrated traffic compression increases overall speed

Best For: Midsized to large enterprises.

Price: Starts at \$16,895 for 50 concurrent users

Contact

(800) 429-4391 www.checkpoint.com (888) 586-4737 www.juniper.net (888) 586-4737 www.juniper.net PRODUCT SPOTLIGHT

NETWORKING

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Marty Sems

Aruba Networks RAP-2WG Remote Access Point



A low price belies the functionality in this 802.11b/g access point from Aruba. In addition to Wi-Fi, the RAP-2WG Remote Access Point includes site-to-site VPN capabilities and 2.4GHz intrusion detection and prevention. Dual Ethernet ports, policy-based forwarding, and centralized management are among the RAP-2WG's other benefits.

- · Authenticated access support
- · One-button installation
- · Secure remote access to enterprise assets
- Compact dimensions

Best For: Teleworkers, SMEs, and small offices.

Price: \$99

(408) 227-4500

www.arubanetworks.com

Aruba Networks RAP-5WN | Check Point Abra Remote Access Point



The RAP-5WN Remote Access Point from Aruba Networks comes with support for 802.11a/b/g/n, wireless intrusion detection/ prevention, and air monitoring. The RAP-5WN also features four 10/100 Ethernet ports for wired LAN connectivity.

- · Backup WAN connectivity possible through USB 3G modem
- Traffic forwarding and user access programmable for individual LAN ports
- One-button setup
- · Hardware encryption acceleration

Best For: SMEs, small branch offices, and telecommuters.

Price: \$395

(408) 227-4500 www.arubanetworks.com



The Check Point Abra is an encrypted SanDisk USB flash drive that turns a Windows computer into a secure, portable workspace with the user's desktop, application list, files, and email. It sports built-in VPN connectivity as well as Check Point virtualization and security features.

- · Hardware and software encryption
- · Program control regulates select application types
- · Virtualization technology isolates a work session from the host
- · Plug and play for ease of use

Best For: Remote workers, contractors, and single users from companies of any size.

Price: \$140 for 4GB; \$210 for 8GB

(800) 429-4391 www.checkpoint.com Check Point Connectra



This remote access gateway combines an IPS and endpoint security with SSL and IPsec VPN capabilities. Users on the go and those in far-flung branch offices benefit not only from Connectra's links to network resources but also from its protection of their nodes from malware and other threats.

- · Centralized management
- Certified as a VMware ESX Server virtual appliance
- Allows wireless network roaming without reauthentication

Best For: Enterprises with mobile and remote workers.

Price: Starts at \$5,500

(800) 429-4391 www.checkpoint.com

Juniper Networks SA6500 SSL VPN Appliance



Juniper's top SSL VPN Appliance, the SA6500, can support up to 10,000 concurrent users. Its layered security comprises controls at the server, data, device, and endpoint client levels for maximum protection of your organization's extranet access.

- Four Gigabit Ethernet ports
- Can be clustered to support up to 30,000 simultaneous users
- Support for terminal services, CRM, clientless Web access, ERP, VDI, and more
- · 2U, 19-inch form factor

Best For: Large enterprises and service providers.

Price: Starts at \$43,995 for 100 concurrent users

StoneSoft StoneGate FW-1030



The StoneGate FW-1030's high-availability technologies include firewall clustering, failover protection, and server load balancing. The VPN appliance also features the ability to segment internal networks to prevent malware transmission.

- Six Gigabit Ethernet ports
- 120Mbps VPN throughput and 650Mbps firewall throughput
- 1U, 19-inch form factor

Best For: Larger branch and remote offices; midsized to large enterprises.

Price: Starts at \$6,930

StoneSoft StoneGate FW-1060



This VPN appliance with failover protection also provides firewall service with high-availability technology. The StoneGate FW-1060 is suitable for any size of enterprise deployment from hundreds to thousands of users, according to StoneSoft.

- · Able to support up to 1 million concurrent
- Features 300Mbps VPN throughput speeds • Optional antivirus engine for Web and email
- traffic and category-based Web filtering

Best For: Midsized to large enterprises; branch offices.

Price: Starts at \$15,330

StoneSoft StoneGate SSL-1030



With a maximum capacity of 100 concurrent users, the StoneGate SSL-1030 is an SSL VPN and remote access device that is easy to manage and deploy. The SSL-1030 supplies endpoint integrity control and granular user access policy support.

- 1U rackmount unit with a 19-inch depth
- Integrated access control for mobile text, Web, and other types of access
- · Dual copper Gigabit ports

Best For: Small and midsized organizations that need to provide controlled yet flexible remote access to employees, partners, and customers.

Price: Starts at \$4.690

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FEATURED COMPANY

Performance Analysis Pros

Opnet's Offerings Monitor Networks & Applications To Help Pinpoint Performance Problems

Opnet's mission is to keep looking

by Holly Dolezalek

MAYBE THE FLAPPING of a butterfly's wings doesn't lead to a hurricane on the other side of the world, but IT managers get the idea behind the metaphor: Complex environments can be very delicate and sensitive to change, sometimes reacting unpredictably. Opnet's mission in life is to offer products that help manage complex networks and applications.

Opnet (www.opnet.com) is a provider of application and network management problems and why," says Alain Cohen, president and CTO of Opnet.

Cohen explains that Opnet's network management products have been around longer and are also good sellers. One in particular, NetMapper, is popular because it builds diagrams of networks automatically. It discovers information about the network, analyzes configurations, and builds a diagram for tracking changes, maintaining security, and troubleshooting configuration or other types of problems. "It can even do predictions if you make

processes and analyzes traffic on highspeed networks and is Opnet's best seller among medium-sized enterprises.

Other products offer network planning and engineering for enterprises, service providers, and transport; network research and development; audit, security, and policy compliance; network troubleshooting; and systems capacity management.

Opnet's products aren't available in the SaaS model, although the company can install its products onsite for a customer and operate them on the customer's behalf. "For the most part, our solutions need to operate in the environment where the business transactions are processed and the network traffic is present," Cohen says. "They're processing a lot of data, so to transfer it across the Internet would not be the best approach, and some of our solutions just wouldn't work well that way, particularly in some aspects of reporting."

for new levels of capability for application performance management.

software and hardware based in Bethesda, Md. It's a publicly traded company, founded in 1986, that has been traded on the NASDAQ since 2000. Although its headquarters are in Bethesda and more than half of the company's employees work out of that location, Opnet is a widely distributed company as a result of several acquisitions in the past few years. It has five R&D centers and a couple of sales offices in U.S. cities and sales offices in Europe and Asia. Because the sales force works regionally, many sales employees work out of home offices.

Product Stable

Opnet has a number of software packages in three categories of application and network concerns: application performance management; network engineering, operations, and planning; and network R&D. Its flagship product is the APM (Application Performance Management) suite, which consists of three offerings: ACE Live, ACE Analyst, and Panorama.

ACE Live performs network monitoring, measurement, and detection of SLA violations. It gathers data about application performance, resource utilization, route quality, and other metrics and monitors network flows through passive Ethernet connections. It works with ACE Analyst, which performs analysis of network packet traces, intermittent application problems, and other data in order to troubleshoot application performance problems.

Panorama does transaction tracing and uses correlation technology and a statistical correlation engine to detect patterns in metrics and events. It monitors metrics with established ranges for normal behavior and identifies deviations based on how far from normal they are. "The APM suite gives a great deal of historical and actionable intelligence about what's having

changes, such as whether a change will break your survivability [or] resilience to failure, whether your backup plan will work, or whether your traffic will have adequate capacity when you expand and add new users," Cohen says.

ACE Live is available as Opnet's only hardware appliance, and it comes in various sizes and form factors. The appliance

Opnet's sales happen through a combination of a sizable direct sales force and a reseller network of about 125 resellers around the world, about 85 of which are based in the United States. The company is also working to build a larger network

Hard Selling

of resellers through its Synergy Program, which allows resellers to sell certain Opnet products.

Most of Opnet's sales happen in North America, but 25 to 30% of its sales are international. Its next biggest sales area after North America is Western Europe, followed by China, Korea, and Japan.

The typical customers for Opnet's network management products are larger organizations such as the Global 2000. "Obviously, those companies tend to have bigger networks and bigger teams managing those networks," Cohen says.

But other products tend to appeal more to small or medium-sized companies, which focus more of their budgets on business applications, Cohen says. The APM suite is a big seller among what he calls medium-sized businesses—a category in which he includes Opnet.

More generally, the company has had success in the financial, healthcare, energy,

OPNET

(240) 497-3000 www.opnet.com

- · Opnet specializes in application performance management products designed to help identify performance bottlenecks and pinpoint application disruptions.
- The company targets its offerings at small to midsized organizations in a variety of segments, including health care, energy, and finance.
- "The APM [Application Performance Management] suite gives a great deal of historical and actionable intelligence about what's having problems and why," says Alain Cohen, president and CTO of Opnet.

and airlines sectors. "There's a lot of money riding on business transactions in the financial sector, and the same is true of health care," Cohen says.

On The Horizon

The past couple of years haven't been kind to many businesses, but Cohen feels Opnet has regained its pre-recession momentum. "[The economy has] loosened up a little, and IT spending is coming back," Cohen says. "It's still recovering, though, and it isn't quite where it was a year or a year and a half ago." Cohen explains that the company weathered the worst of the recession because its sales come from a good balance across sectors, especially from government clients such as the Department of Defense.

In good times and bad, though, the company strives to invest a lot in research and development. "There's always change, and we have to make sure that we're always bringing more to our customers," Cohen says. "Customers want higher capacity, more advanced analyses, and more automation, and we have to keep at it to keep offering those things to them." Cohen says that the company invests 25% of its revenue annually in research and development.

For the immediate future, Cohen says, Opnet's mission is to keep looking for new levels of capability for application performance management. It will search for new ways to give all levels of IT staff visibility into the performance they're getting and to expand the software's analysis and troubleshooting to every nook and cranny of the IT environment.



Making Networks and Applications Perform™

Application Performance Management Suite

Product	Description
ACE Analyst	Performance management software that analyzes packet traces, key statistics, intermittent application problems, and performance bottlenecks
ACE Enterprise Management Server	Enables packet capture when end users have issues with applications and offers capture agents to deploy across servers and desktops
ACE Live	Monitors network flows to report on application transactions and users, application performance, resource utilization, route quality, ISP performance, and end-user response times
IT Guru Systems Planner	Analyzes system configurations and workloads and predicts the impact of new application deployments, changes in workload profiles, and performance tuning
Panorama	Offers performance management for Java and .NET applications during development, QA, and deployment and operations

FEATURED PRODUCT

Supercharge File Transfers

Ipswitch's Enterprise-Class WS_FTP Server 7.5 Focuses On Data Security & Easy Management

by Joseph Pasquini

THE TRANSFER OF sensitive data files, often comprising elements such as health records, credit card transactions, and other similar confidential information, is a commonplace occurrence. The truth is that file transfers,

Logged in as: hys/hoe@lestserier Change Passwood Logged

Sent Files Options

*Required fields

*From: hys/hoe@lpswitch.com

*To: sanntingc.ongany.com, joconon@lpswitch.com

*Subject transactions this week.

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Options: [*]

Send

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The Ad Hoc Transfer module has a simple-to-navigate user interface for easy P2P file sharing.

both internal and external, are a core component of virtually all corporate data processing operations. If not correctly implemented, however, such transfers can leave a company teetering on the edge of disaster should data confidentiality be violated.

In order to establish proper controls and mitigate the loss of sensitive data, technology professionals face an assortment of necessary—but sometimes daunting—regulations and requirements such as HIPAA and Sarbanes-Oxley.

"Today's business environment of data breaches, regulatory compliance, and corporate governance requirements [is] forcing organizations to re-evaluate how they manage and move company information, both inside the organization amongst employees as well as externally with partners, vendors, and even customers," says Gary Shottes, president of Ipswitch's File Transfer division (www.ipswitchft.com). "It seems that every week, we are reading about another high-profile data breach that happened—data breaches that often could have been avoided if proper tools had been deployed."

As a result, server administrators are challenged with addressing these necessary safeguards while still providing both functional and user-friendly file transfer services within the enterprise.

To help server administrators overcome these challenges more easily and safely in today's demanding technological environments, Ipswitch has released the latest iteration of its well-established file transfer suite. Known collectively as WS_FTP Server 7.5, this latest version is available in three different flavors offering escalating levels of capabilities: WS_FTP Server, WS_FTP Server with SSH, and WS_FTP Server Corporate.

Security Is Key

WS_FTP Server supports a litany of security protocols, including 256-bit AES encryption over SSL, SSH, and SCP2 as well as file integrity checking up to SHA-512. Digital certificate management is also supported. In addition, WS_FTP Server's anti-hammering feature lets administrators

identify, log, and block failed logon attempts that often herald a DoS or DDoS attack.

"WS_FTP Server features the highest levels of encryption and data integrity strength possible," Shottes says. "It also uses FIPS 140-2 validated cryptography as required for use by the U.S. government. Many competing

solutions utilize weaker encryption and lack many of the security capabilities of WS_FTP Server."

The WS_FTP Server lineup features a potent rules engine that allows administrators to automatically trigger email, SMS, and pager alerts and launch external programs. Administrators can easily create rules for event-driven notifications and automation based on failed user logon attempts

or server events such as creating a directory, exceeding quota, or uploading a file.

Administrative actions and actions related to storage and transfer of files are logged for monitoring and auditing. WS_FTP Server compiles a detailed record of administrator and end-user activity, including who connected to the server, what was transferred, and when. Administrators may control the level of logging detail and may filter, sort, and export logs for customized reporting.

WS_FTP Server supports both Microsoft SQL Server and Microsoft SQL Server Express as well as Ipswitch's own embedded WS_FTP Server database. In addition, administrators can use the default WS_FTP Server Web server or integrate with Microsoft IIS (Internet Information Services). Silent installation enables speedy and automated deployment on multiple servers.

Extending WS_FTP

WS_FTP Server provides three different end-user client options for transferring files and critical information.



Ipswitch's Ad Hoc Transfer module enables convenient person-to-person file sharing using a Web browser or Microsoft Outlook plug-in. "IT departments not only need to enable person-to-server and system-to-system data transfers, but they must also enable employees to quickly and securely share files with each other and with people outside of the company," Shottes says. "Our Ad Hoc Transfer module enables simple and fast file sharing."

The Web Transfer module enables users to transfer files between their computers and WS_FTP Server using a Web browser.

WS_FTP Professional provides power users with advanced security and time-saving productivity tools, such as synchronization, backup, compression, post-transfer events, and scheduling of transfers.

The Evolution Of File Transfer

"When people first think about 'file transfer,' they often only think about the actual transport of files and data," Shottes says. "Other important considerations include user authentication and provisioning, policy enforcement of server access, user bandwidth, security and encryption, and visibility into server logs for reports and audits." Shottes adds that both internal and external file transfers should be considered when developing plans and allocating resources.

With security and compliance of company data being such hot topics these days, Shottes contends that many enterprises are accelerating the deployment of a proven secure file transfer solution. "Many organizations are still using in-house

IPSWITCH WS_FTP SERVER 7.5

(781) 676-5800 www.ipswitchft.com

Description: The latest version of the easy-to-install WS_FTP Server suite of file transfer solutions provides corporate users with the ability to encrypt, control, authenticate, and manage files moving inside and outside of their organizations.

Interesting Fact: The new Ad Hoc Transfer module enables secure person-to-person file sharing using a Web browser or Microsoft Outlook.

custom-coded FTP solutions that are now outdated," says Shottes. "The biggest problems we hear about are that the programs developers brought online years ago are not secure, not automated, and are becoming increasingly difficult to maintain, as in most cases, the original developer is no longer with the organization."

Shottes says file transfer methodologies have progressed in direct correlation to the latest business requirements. "Encrypted file transfer protocols such as FTPS, SFTP, and HTTPS have replaced unencrypted FTP," Shottes says. "Scheduling and automation capabilities are freeing people from recurring manual tasks. And advanced management, security, and audit capabilities are enabling IT organizations to protect company data and enforce rules and policies around the access to and movement of company information."

Shottes continues, "The WS_FTP Server solutions transform once-ungoverned processes and manual practices into reliable business processes that are automated, secure, reliable, and auditable."

In addition to being available as a free 30-day evaluation download, the three editions of WS_FTP Server 7.5 can be purchased from Ipswitch in a variety of combinations. Pricing for a one-year support agreement starts at \$645; additional bundles and licensing options are also available, as is volume pricing.

"A single license of WS_FTP Server can scale to thousands of user accounts," Shottes says. "As an organization's file transfer needs grow and evolve, WS_FTP Server grows along with them."

NETWORK MONITORING & REPORTING MADE EASY

NEW PRODUCT

by Rod Scher

nMetrics Traffic Performance Manager v3.2

How can you manage your network if you cannot see the traffic that goes through it? Network performance monitoring systems are the eyes and ears of network operators. They serve as insurance policies and verification tools, a means to ensure that the business runs smoothly. After all, the network is the business, but the network operator should not be spending his time investigating network problems or working out how network resources are being consumed.

The benefits of a solution that can provide visibility across the enterprise are astounding. With its Traffic Performance Manager software solution, nMetrics focuses on what network operators require in order to satisfy key performance metrics so that the time to correct problems is reduced dramatically. The benefits of using this system can be translated into three key areas: cost control, security, and service management. These reports allow the network operator to run the network with certainty and to validate services in the data center and across the wide-area network.

Installed on standard server platforms, nMetrics Traffic Performance Manager v3.2 works with any type of network infrastructure device or with low-cost nMetrics probes. Depending on the level of information required, network operators or



nMetrics Traffic Performance Manager v3.2

Designed to work with a variety of hardware options, nMetrics TPM v3.2 is a cost-effective solution for collecting and reporting on all traffic flows within an enterprise's networks.

MSPs can customize the system to collect traffic from flows or span/mirror or both. One TPM can take feeds from literally thousands of remote sites or individuals' addresses within the data center. The system can report based on users, sites, subnets, interfaces, applications, regions, or countries.

Because TPM captures and correlates everything, it is a perfect tool for usage-based billing, where a dollar value can be set based on the usage upload rate. In addition, the traffic is stored for verification purpose for as long as you want. This information can be sent by SNMP third-party traps to most management systems. Anomaly, network and application latency, TOS, alarming, and availability reports are available within the same system.



Contact Ace Computers, nMetrics' U.S. location: (877) 223-2667 nmetrics@acecomputers.com | www.acecomputers.com/nmetrics.asp News

Group Asks DoJ To Break Up Google

Consumer Watchdog, two lawyers, and a mobile entrepreneur are calling for the U.S. Department of Justice to investigate Google's advertising and book search service. The consumer group wrote a letter to the DoJ asking that it launch a broad antitrust action against Google. Consumer Watchdog pinpointed some possible solutions: Google could divide itself into companies dedicated to social networking, video, and enterprise applications; Google's ad platform could be restricted for greater business transparency; or Google could be forced into financial penalties paid out to users whose information has been monetized without previous compensation.



■ EMC Sees Q1 Income Jump 92%

Storage and information management company EMC released its first-quarter financial results, touting record sales that led to a 92% increase in net income over the same time last year. Specifically, net income rose from \$194 million to \$373 million year over year, and the company's revenue jumped 23% from \$3.2 billion in Q1 2009 to \$3.9 billion in the same quarter this year. EMC's income was boosted by sales growth across the board, including a 32% increase in sales of midtier platforms, a 24% gain in sales of information storage, and a 2% increase in sales of archiving and content management products.

Microsoft Plans Investigation Of Worker Abuse In China

Workers at a plant in China manufacturing products for Microsoft are allegedly being abused, and Microsoft is taking notice. A National Labor Committee report says that at a KYE-operated plant, employees are being subjected to fines, restrictions, insufficient food, and various other forms of abuse. The vast majority of workers are work-study students between the ages of 16 and 17; however, it is believed some are as young as 14, which is illegal. Young workers are often hidden from inspectors. For its part, Microsoft pledges a thorough investigation and appropriate action to remedy the situation. About 30% of KYE's business is with Microsoft.

Google Acquires Chip Startup Agnilux

In a move that has analysts buzzing, Google has agreed to purchase small chip-maker Agnilux for an undisclosed sum. The startup company was originally founded by a handful of former employees of P.A. Semiconductor, which was acquired by Apple in 2008; these same former employees are thought to have taken part in the development of Apple's latest device, the iPad. Analysts are speculating that the acquisition is another strategic step in Google's plan to develop devices such as iPad-like tablets or even set-top boxes for televisions running on its own Chrome and Android software; others say the search giant might use Agnilux's chip expertise to develop a new server chip.

NETWORKING & VPN

Managing Wireless Services

Better Management Can Save 10 To 35% In Annual Costs

by John Brandon

WIRELESS IS EVERYWHERE in business. The sales force uses BlackBerrys to communicate with their customers, marketing managers tap into email from iPhones, and the executive team uses 3G adapters with notebooks to make sure everything is running smoothly—even from home. This proliferation is good for business but is also a management nightmare.

According to a Gartner report from February of this year, better management of wireless services can lead to a savings of 10 to 35% annually. And the report goes on to say that in addition to managing wireless services, the best course of action is to create corporate policies that are brief, to the point, easy to read, and actionable. John Scott, an IT analyst familiar with the needs of the SME, says these policies should stipulate, in no uncertain terms, which wireless services are reimbursable by the company.

The "corporate liable" approach to wireless helps reduce costs by pooling minutes and controlling wireless services, and a tight policy will discourage rogue users from getting their own contracts and charging them back to the company, says Scott. In addition, once these costs are realized, companies can then add to the corporate services and provide additional services, such as more Wi-Fi access, texting from smartphones, and data plans for employees to communicate more effectively.

Raman Babu, director of IT at Connectiva Systems (www.connectivasystems.com), says companies can go further by looking for corporate discounts on wireless services, putting caps on employee usage, and tracking an employee's personal use to make sure the costs are not reimbursed.

Management Challenge

The main goal is to control costs, and the primary method for achieving that

Top Tips

- Corporate-liable plans for pooling wireless access are a great way to not only reduce costs but to also manage the services. John Shea, chief marketing officer at Rivermine (www.rivermine.com), says these systems can also be used for auditing invoicing and resolving disputes.
- Allowing employees to make their own decisions about wireless services might seem like a good HR step, but it often leads to higher costs. Instead, clear policies should state that personal use of cell phones is not reimbursable, and the policies should set guidelines on corporate-issued devices.
- One benefit to better management of wireless services is that the entire process of offering wireless services is streamlined such that employees know what is available and from which department.

Key Points

- Cost savings come from better management and better corporate policies, and research shows this could lead to a cost savings of 10 to 35% annually.
- Policies should be well-written, clear, easy to act on, and short enough to digest, and management should be proactive in how it determines who has what level of wireless access.
- Wireless expense management software aids IT in understanding and monitoring usage

goal is through better management of services. Kevin Donoghue, president of Telesoft (www.telesoft.com), says management is the key to understanding how wireless access is spread out across an organization, typically by using a central console system that reports to IT on which devices have been provided to

how to change cost structures, tweak calling plans, and change behaviors, but the overall plan should involve good management because that gives IT better visibility into usage.

"Every company with 50 or more wireless devices should use Wireless Expense Management (WEM) software to manage their inventory and keep their end users accountable," says Rabinowitz. "Software can easily compare monthly usage and spot anomalies that the naked eye simply can't. Moving to a software-based system, for just a few dollars per month for each device, typically saves 17% to 35%."

The main challenge, he says, is to install and use these management systems in a real way that impacts business, not just as an ancillary endeavor, but one that changes how the company operates and helps corporate leaders not only make new policies but also enforce them. Through better management and reporting, a company may find that employees who have left the company are still using

"Every company with 50 or more wireless devices should use Wireless Expense Management (WEM) software to manage their inventory and keep their end users accountable."

- TBRC Cost Recovery's Yosef Rabinowitz

employees, which services are available to them, and how they are being used.

"By simply gaining visibility into your organization's wireless activities, you can see if users are on the correct plan and what users aren't using their wireless devices altogether," says Donoghue. "That kind of visibility provides the intelligence you need to make the appropriate changes and generate immediate savings. Savings generated through proper management of wireless services provides capabilities for organizations to reinvest in their wireless programs and technology, reallocate funds to other departments in telecom and IT, or directly contribute the savings to the organization's bottom line."

Yosef Rabinowitz, managing director at TBRC Cost Recovery (www.tbrc.com), says usage limits can help, as well, and some smartphones and wireless providers offer a feature where an employee's service will be cut off after he reaches a specific threshold for texting, voice, and data. Another tip is to provide corporate policies on directory assistance where employees know to use a free service instead of the carrier-provided service that can add costs.

All that said, Rabinowitz says better management is still the key to reducing costs. There are plenty of ideas about a corporate device. A well-enforced policy about turning in these devices will reduce costs.

John Shea, chief marketing officer at Rivermine (www.rivermine.com), a telecom expense management company, says WEM can also help companies be proactive about services provided.

"A WEM solution can help companies save money by regulating which wireless devices and plans are most appropriate for specific job roles. The WEM solution taps into the HR system and, through an easyto-use online portal, allows employees to order devices and service plans that most closely match their individual needs and that adhere to corporate wireless policies," says Shea. "For example, salespeople may be allowed to purchase smartphones with extensive voice and data plans, while lower-level headquarters personnel may only be allowed to purchase basic cell phones with limited plans. All of this can be managed through a WEM solution for optimal business efficiencies and cost savings."

Managing services, writing policies that communicate the desires of the company, being proactive about enforcing those policies, and setting guidelines for who can access which services will help drive out extra costs from wireless plans and make the company leaner and run smoother.

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FEATURED PRODUCT

Next-Generation Firewalls Protect Your Data

Palo Alto Networks Redefines Network Security



by Tessa Warner Breneman

PALO ALTO NETWORKS has developed next-generation firewall technology that enhances your protection against evolving threats targeting your users and data. These firewalls identify applications regardless of the port, protocol, and SSL encryption, and they let you control access to Web 2.0 and other applications based on user identities rather than IP addresses. This helps keep your network and your data safe from increasingly sophisticated cyber criminal activity.

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personnel can selectively allow business productivity applications on the network while blocking harmful or unnecessary application traffic. The firewalls can also scan applications for threats, removing the need for a standalone IPS product.

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Midsized enterprises or branch offices can also use the PA-500 firewall to protect their networks. It features 250Mbps firewall throughput, 100Mbps threat prevention throughput, and 50Mbps IPsec VPN throughput. It offers 7,500 new sessions per second and up to 64,000 sessions.

With Palo Alto's next-gen firewalls, you can be sure that your network and data are safe from malicious applications and prevent inadvertent data leakage by your users.

FEATURE PACKAGE

Thinking Green (Again)

With the economy back on the mend, many enterprises are starting to pay more attention to "green" computing and data centers. We outline ways your enterprise can be greener in several key areas.

Responsible Power & Cooling | 26

■ Power and cooling costs continue to rise, as does demand for both. What measures do IT managers need to take to bring such costs down without sacrificing resources?

Buying Green | 27

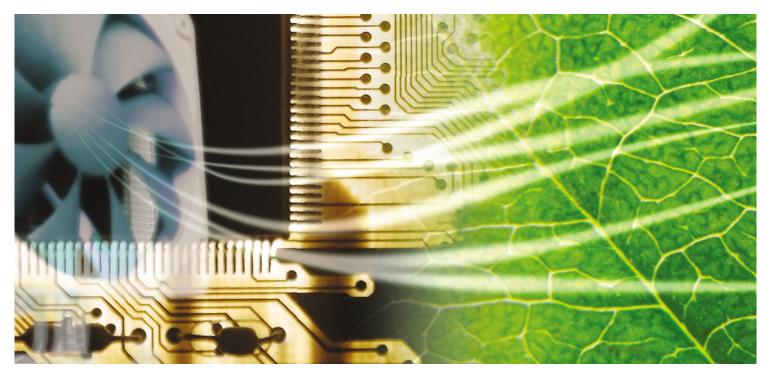
■ There are numerous ways green strategies can be implemented in the data center, but perhaps the most effective one is ensuring that new equipment purchases meet or exceed standards for energy efficiency.

Eco-Friendly Equipment Disposal | 28

■ Recycling old equipment is a green way to get rid of it, but can also leave your enterprise legally liable. Consider the ways you can discard outdated equipment in both a safe and ecofriendly manner.

Create A Green Team | 28

■ It's hard to miss the benefits of being environmentally friendly, but employees may be less willing to cooperate with green measures. Here are some ways to get your workers involved in your enterprise's policies.



Responsible Power & Cooling

Greener Practices Can Reduce Your Environmental Impact & Your Spending

by Bruce Gain

THE COSTS ASSOCIATED with powering and cooling data centers on an industry-wide scale continue to explode due to a perfect storm of increased bandwidth needs, more power-hungry applications, and exponential increases in the amount of data to process in general. According to a U.S. Environmental Protection Agency study, energy consumption of servers and data centers doubled from 2000 to 2006; furthermore, the EPA says it is possible for data center energy consumption to almost double again from 2006 levels, reaching 100 billion kWh in usage and \$7.4 billion in annual electricity cost by 2011.

At data centers in the United States, the power and cooling infrastructure accounts for 50% of total power consumption. Data center managers thus have huge incentives to lower power and cooling use in order to offset significantly rising costs. At the same time, many IT managers also feel they have a responsibility to reduce the environmental impact of the data centers they operate by slashing power consumption. Luckily, there are several ways to make your data center much more environmentally efficient and eco-friendly while also reducing your power and cooling bills. Here are a few examples.

Total Cold & Hot Air Separation

The environmental efficiencies gained through hot aisle/cold aisle layouts are wellknown by now. However, some data center managers are implementing designs that

Key Points

- The use of ducted exhaust cabinets boosts cooling efficiency through better separation of cold and hot air.
- New server CPUs have made significant jumps for enhanced power-saving features compared to the previous generation of devices.
- Removing dust buildup can significantly reduce the thermal output of server components and thus require less cooling.

take the concept one step further by almost completely separating cold and hot air by using ducted exhaust cabinets. With ducted exhaust cabinets, cooling is significantly more efficient compared to hot aisle/cold aisle layouts, says Jeff Lowenberg, vice president of facilities for The Planet (www .theplanet.com).

With a ducted exhaust cabinet, the cold and hot air are separated and encapsulated with a so-called chimney on top of the backs of the server cabinets, Lowenberg says. Hot air is pulled out of the cabinets, chilled, and then channeled back under the raised floor.

According to Lowenberg, the efficiency rate of the energy used to cool the data center with a ducted exhaust cabinet is well over 90%. "In the best-case scenario, with just the traditional hot aisle/cold aisle layout, only 75% of the cold air is getting to the servers," he says.

New Processors, Less Heat

CPU makers have not turned a deaf ear to the need for more eco-friendly processors that reduce power consumption even while offering better computing performance. Today's server CPUs are able to demonstrate concrete results for lower power and cooling requirements. In fact, recent devices are showing more significant gains in power efficiencies compared to years past. "Power usage on the processor is going down, and the processing capabilities are going up in big jumps," Lowenberg says. "Some of the processors launched today use the same amount of power as [their predecessors] but do twice as much work."

One metric used at The Planet's site demonstrated clear-cut power consumption efficiency gains by using newer-generation server CPUs, Lowenberg says. There, one set of servers used 18-month-old processors, and another set used a new series of processors. The power consumption of the rack with new processors in the servers—with the same drives, memory, and workload—went down by 40%.

Virtualization Means Less Power & Cooling

Lowering cooling and power needs by consolidating physical servers into a single machine can go a long way to lower the environmental impact of data centers. According to VMware (www.vmware.com), it is possible to consolidate as many as 30 or 40 servers' workloads onto a single server

for a reduction in energy consumption of up to 80%.

"Certainly, virtualization can have the biggest impact compared to [typical energy and cooling saving initiatives]," says Bill Kosik, energy and sustainability director for critical facilities services at HP.

Once a computer is running at 20% of the server's capacity, it is probably using 80 to 90% of its total power draw, Lowenberg says. "But by taking capacity up from 20 to 80% utilized, you are only increasing the amount of power used by 10 to 15%," he says. "This is something that obviously helps IT departments with their CAPEX budgets" as well as with reducing their environmental impact.

Remove Dust, Lower Heat

Properly cleaning servers and data centers is an oft-overlooked way to reduce power and cooling needs. Dust buildup causes the thermal output of components to significantly rise, which in turn leads to wasted energy for the extra cooling required to keep devices at viable temperatures. "Electronics attract dust, so it is important to prevent buildup from occurring. As airborne dust flows through a sever cabinet from the under-floor airflow, it continues to conglomerate (grow larger and thicker) on internal components," says Kevin Vickery, president of ProSource Mission Critical Services (www.team-prosource.com). "This is precisely why it becomes important to clean the under-floor plenum to reduce contamination before it becomes airborne."

Indeed, the continuous buildup of dust inside electronic components can act as an insulator and cause components to run hotter, Vickery says. "Routine cleaning of the sub-floor within the data center can help reduce the occurrence of buildup and help reduce heat inside electronic equipment and potential failure," Vickery says. "In today's data center, this becomes even more important as newer equipment runs at higher temperatures than ever before."

Top Tip: Integrate The Building With The Data Center

Integrating the IT infrastructure into the building instead of just focusing on the energy needs of the data center as a separate entity is a very new concept, yet it will likely become a mainstay of data center designs for more environmentally efficient operations in the future, says Bill Kosik, energy and sustainability director for critical facilities services at HP.

"There is an [emerging] technological ability to very, very closely integrate all computers [at a given site] with the building's power and cooling system," Kosik says. "During the next five years, we should be able to take the integration of the data center, the computers, and the building far beyond any level that exists today with regular building control and integration—the building becomes like a giant server."

FEATURE PACKAGE

Buying Green

When It's Time To Add Equipment, Establish Policies & Define Vendor Relationships To Ensure Green Practices



by Sixto Ortiz Jr.

TODAY, GOOD environmental stewardship—in other words, "thinking green" is on everyone's mind. Because they consume so much energy, data centers are logical places to identify ways to go green.

There are numerous ways green strategies can be implemented in the data center, but perhaps the most effective one is ensuring that new equipment purchases meet or exceed standards for energy efficiency. Manufacturers are striving to develop and market equipment designed to conserve energy, so procurement personnel should

keep such equipment in mind when making purchasing decisions.

Compelling Reasons To Go Green

In spite of the fact that "going green" appears to be the hip trend du jour, the fact is that it can generate significant savings for organizations. That is quite a boon for data center administrators looking to cut costs because of budget pressures.

Here's an example: Chuck Graff, director of core network technology at Verizon (www.verizon.com), says the company saved 91 million kilowatt hours and more than 114 million pounds of CO₂ avoidance

because of energy efficiency standards it set up for its network equipment suppliers. According to Graff, Verizon became the first company in its business segment to establish energy efficiency standards for equipment procurement.

Going green can generate significant monetary savings for organizations looking to cut data center expenditures. Steve Suesens, category manager at Staples Technology Solutions (www.staplestech nologysolutions.com), says going green when purchasing new data center equipment can save money simply because newer products are designed to use less energy, generate less heat and waste, and last longer. Energy equals heat in the data center, says Suesens, so a more energyefficient piece of equipment requires less cooling. Finally, in a world where regulation of CO2 emissions will be taxed sooner or later, using more energy-efficient equipment will help organizations avoid financial penalties.

Demand Green Products

The first step toward going green when procuring data center equipment is simply to ask for it. Suesens says administrators should develop green specifications and standards as guidelines for purchases. Also, he adds, procurement officers should include green performance clauses in contracts, enabling enterprises to enforce penalties or terminate contracts of suppliers that don't meet their contractual green commitments.

Christopher Maylor, director of IT for Verizon, recommends asking hardware and software vendors for refined power management capabilities. As an example, he explains that Verizon talked to vendors about incorporating instrumentation into PCs that enables direct measurement of power within the computer.

Additionally, administrators should seek top management support to ensure they are on board with green equipment purchasing initiatives. This strategy can send a clear signal to vendors that green considerations are important.

Power Considerations

The power required to run data center equipment is the most direct impact this equipment can have on the environment. And for data centers, inefficient power consumption across many servers can lead to significant spikes in energy costs.

The use of blade servers instead of traditional servers can, at first glance, immediately result in power consumption savings. However, administrators should consider the impact of denser blade server architectures on existing power and cooling equipment, says Brace Rennels, senior manager of global Web site strategy at Double-Take Software (www.doubletake.com).

For example, Rennels says, consolidating a large number of physical servers to smaller virtualized blade servers can make existing power and cooling infrastructure ineffective or, at best, not as efficient. This is because an area cooling unit may have to work harder to cool a dense server

architecture, Rennels explains. He recommends admins purchase high-density power and cooling solutions specifically designed for smaller virtualized blade environments.

Another smart power strategy, says Joshua Goodstein, senior network engineer at JDL Technologies (www.jdltech.com), is for administrators to purchase switches and routers equipped with power-aware ports, which Goodstein says can enter a "sleep mode" when no data is going through equipment data ports, thus calibrating power usage to actual device use. This results in significant power savings because equipment in sleep mode uses a fraction of the power required to run it. Goodstein adds that newer wireless devices are also designed to shut down their radios whenever no network traffic is detected.

For more detailed information on green power and cooling strategies, see "Responsible Power & Cooling" on page 26.

Virtual Computing, Real Savings

Virtualization and consolidation are hot trends in computing today, and rightly so: Eliminating power-consuming servers or storage using virtualization can lead to

Key Points

- Administrators should always look to procure products that are specifically designed to run in an energy-efficient manner.
- Vendor management via specifications and contractual relationships can ensure that green considerations are hard-wired into the equipment procurement process.
- Investments in tools that deliver techniques such as asset virtualization, power management, and cloud computing to the data center can generate quick payouts and significant returns on investments.

concrete energy savings. In that sense, virtualization can help administrators purchase less equipment by enabling the most efficient use of existing assets.

For example, storage virtualization enables administrators to spread read/write operations across all available drives, says Bob Fine, director of product marketing at Compellent (www.compellent.com). This means that companies no longer have to designate specific numbers of drives to certain servers. Storage virtualization creates a dynamic pool of storage resources shared by all servers, maximizing available assets and eliminating the need to constantly add disk drives.

Double-Take Software's Rennels says the first step toward implementing green IT is adopting more flexible and efficient platforms to help reduce power consumption. But, he warns, administrators may be reluctant to take on such a project because it requires the migration of data and applications from existing servers to the blade platform. So, Rennels recommends that administrators look at procuring real-time and live migration products that remove the complexity of new infrastructure migrations.

Top Tip: Talk To Vendors & Their Customers

A way to ensure that equipment procurement follows "green" guidelines is simply to establish ongoing dialogues with equipment vendors and manufacturers. Rob Salvatore, director of infrastructure compliance and green initiatives at SunGard Availability Services (www.availability .sungard.com), says administrators looking at equipment purchases should talk to different manufacturers and learn the specifics of their product offerings. Also, he adds, administrators should talk to companies already using a potential solution. Finally, Salvatore recommends that administrators should not rely solely on manufacturers' data; instead, they should create their own models based on all resources available.

FEATURE PACKAGE

Eco-Friendly Equipment Disposal

Whether It's Being Repurposed Or Recycled, Make Sure Your Old Equipment Is Handled Responsibly

by Robyn Weisman

GREEN IT AS A BUZZWORD has been around for several years, but as a concept it has become almost a distraction, at least when used in context of IT equipment disposal. "More often than not, companies have started to be green because they recognize it can help the bottom line in a lot of different ways," says Josh Goldowitz, professor and program chair for Environmental Sustainability Health & Safety at Rochester Institute of Technology. "Improper disposal leaves a company open to all sorts of liability issues."

Many of these liability issues revolve around data protection. Environmentally, however, failure to properly get rid of your old and obsolete IT assets can also lead to criminal and civil litigation. "If [company X] disposes of its equipment using an unscrupulous recycler—someone who takes their money and says, 'Yes, we're going to dispose of this in a proper way' and then ends up dumping that equipment

someplace—company X is criminally responsible," Goldowitz says.

Given that ignorance and gullibility are, at best, ineffective legal arguments, what strategy should the average SME take when it's time to discard outdated equipment in a safe and environmentally friendly manner? Here are some tips to get you started.

Key Points

- Look at reuse options for your equipment before recycling it.
- Vet potential recycling vendors by visiting them onsite, demanding detailed audits of their downstream vendors, getting proof of liability insurance, and interviewing at least three references.
- Make sure that vendors are ISO-certified and are also certified with the EPA's R2 program or BAN's e-Stewards standards preferably both.

Consider The Three Rs: Repair, Refurbish & Reuse

Before you retire that outdated server, ask yourself if it can be repurposed for another task before you put it in the recycle pile, says Bob Houghton, CEO at technology change management solutions provider Redemtech (www.redemtech.com). "Even if you're going to be putting in all new equipment, you will have occasional needs for [things like] disaster recovery spares, spare parts, and project-related hardware," Houghton says.

Houghton gives several scenarios where using a quality piece of used equipment that has been tested and perhaps refurbished is a greener and more cost-savvy option than buying new hardware. "If you're operating a retail organization, many times, a server that no longer quite has the power to work in the data center is appropriate for use as a backroom server in a retail location as part of a PoS system. Workgroups may need to have access to a server for a particular

development project [that requires] a Web server for whatever reason. And companies that need a disaster recovery or business continuity plan can use [older hardware] to set up a cold site so that they can still do business if their primary data center is wrecked," he says.

Vet Potential Recycling Vendors

Houghton says that the average enterprise naturally assumes that recycling vendors will ground up old equipment and recycle it just like glass bottles and soda cans. Unfortunately, too many vendors equate recycling with shipping e-waste overseas, where materials



Create A Green Team

Getting Employees On Board With Green Practices Requires Communication & Education



by Christian Perry

GOING GREEN naturally requires some initial steps to get the ball rolling, but the real challenge emerges when trying to get employees onboard with a new environmentally friendly focus. Yet thanks to perpetually expanding awareness on the issues surrounding green efforts, even the most stubborn employees are starting to see the benefits of going green.

"Green is an important issue for consumers, and therefore our staff, in today's society," says Debbie Baxter, chief sustainability officer at LoyaltyOne (www loyaltyone.com). "There is a concept of a 'social license to operate' that is gaining increased momentum with our stakeholders. We have more and more staff members approaching us to implement their own eco programs or be involved in corporate environmental initiatives."

Two Sides Of The Coin

Thinking green can make employees feel better about their impact on the environment, but green efforts can also have an impact on the bottom line. For example, Baxter notes that sustainability often leads to efficiency improvements, which in turn lead to a positive business case for green methods and initiatives. One of the most obvious impacts to the bottom line comes from energy efficiency practices, such as turning off computers and lights that aren't in use or asking employees to telecommute to save on gas and carbon emissions as well as the company's utility bills. Particularly amid a rough economy that's rife with layoffs and outright elimination of jobs, employees need to understand that green efforts can help their organization stay afloat—and keep personnel.

"From a business perspective, we are aware of the cost-saving advantages to having green processes. There is also a benefit to our firm's business development when we

Key Points

- Employees should understand that going green not only has a social impact but also a direct impact on the bottom line, which could ultimately help to prevent staff reductions.
- IT managers should take advantage of environmentally friendly settings on monitors, copiers, and other devices to help employees more easily get onboard with green efforts.
- Changing employee behavior is a must to reach success with a green strategy, but voluntary projects can find even stubborn employees eventually following green practices.

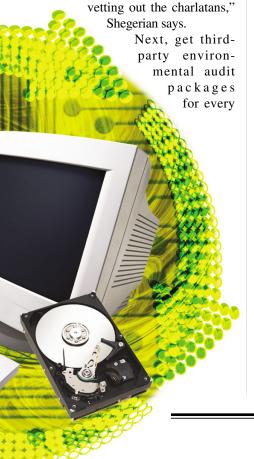
identify ourselves as a green workplace. Supporting sustainability is good for our local community [and] our global community and therefore is good for our business, our employees, and our clients. Many of our green efforts have resulted in greater efficiency in our workplace, as seen in our effort to reduce the amount of printing," says Jennifer Civitella Hilario, an associate at Boston-based law firm Tarlow, Breed, Hart & Rodgers, P.C. (www.tbhr-law.com), and a member of the firm's self-described "green team," which works to boost green awareness and practices in the firm.

Lean & Green

According to Civitella Hilario, education is a prerequisite to getting employees onboard because employees must understand why they are being asked to change their routines or practices. Her law firm has boosted educational efforts in part through its company intranet, which lets the firm distribute a "Green Team News"

ways. "The real crux of the problem is [making sure] the recycler does what it says it will do," says Houghton.

But how do you verify this? John Shegerian, CEO of Electronics Recyclers International (www.electronicrecyclers.com), offers several tips to help you vet potential recycling vendors. First off, Shegerian urges that you visit the physical facility of a potential vendor and do an onsite audit. "If a place says it is recycling 1 million pounds of electronics every month, and in that facility, only two people are on the forklift, that's a great way of



downstream vendor the recycler uses. "Where are they sending their glass, plastic, and metals to, for example? Just giving a list of [downstream] vendors is not sufficient," Shegerian says.

In addition, Shegerian recommends you ask potential vendors the amount of liability insurance they carry and insist that they produce a current liability insurance certificate that proves it. "You should shoot minimally for \$5 million and ideally for \$10 million because as an IT manager, you're selling peace of mind to your boss and to your clients, and that peace of mind includes making sure that you choose a recycler that believes in their processes and procedures enough that they have the right types of liability insurance," Shegerian says.

Finally, ask potential vendors for a minimum of three client references that you may contact to make sure everything squares up. Shegerian adds that these references should come from IT, chief sustainability, or CEO-level employees.

Make Sure Your Chosen Vendor Is Certified

According to Shegerian, ISO 14001 certification (www.iso.org) should be a pro forma requirement of e-waste recyclers, along with certification with the EPA's R2 standards (www.epa.gov) and/or Basel Action Network's recently released e-Stewards standards (www.e-stewards.org).

For his part, Redemtech's Houghton feels that the R2 standard is not rigorous enough to guarantee responsible and environmentally sound e-waste recycling practices. Houghton says the R2 standard fails to ban export of

toxic e-waste to developing countries and its reuse provision has too many loopholes to ensure that nonworking equipment isn't exported as reusable or refurbishable equipment, among many other problems relating to landfills and worker health and safety.

Unlike the EPA R2 standard, the e-Stewards standard has been developed under the auspices of BAN (Basel Action Network), a third-party non-governmental organization that has been campaigning for many years to eliminate e-waste exports to developing countries. Not only does the e-Stewards standard apply to recyclers, it has the backing of major corporations that have committed themselves to using only vendors certified as e-Stewards to manage their e-waste, Houghton explains.

Top Tip: Do A Detailed Assessment Of Your Hardware Portfolio

Bob Houghton, CEO of Redemtech (www .redemtech.com), recommends that you perform a detailed assessment of your hardware portfolio so that you understand what your equipment is worth if it is in near mint condition and then can calculate the value in refurbishing this equipment to put it in that condition. "It's not anyone's first instinct when disposing of equipment, but if you pay [your recycling vendor] another \$10,000 to refurbish your stuff when you [could] get \$25,000 extra back on selling it, that's money on the table," Houghton says.

email that provides green tips and status reports on green efforts.

"We have also educated our co-workers on energy-saving techniques involving the computer, copiers, and printers," she says. "Our IT director has provided one-on-one advising to users to assist them with understanding how they can save energy. We have created some incentive programs to encourage green practices—for example, a green employee of the month and an interdepartment challenge to reduce paper consumption and to turn off computers."

Making the entire green process easier on employees can help with buy-in. For example, TBHR places recycling bins in every office and kitchen; all copiers can print double-sided and scan electronic copies; monitors are configured to turn off after 30 minutes of inactivity; and all rooms have sensors that automatically turn off lights after 20 minutes of inactivity. Because steps such as these don't add any time to the normal routines of employees, enlisting their participation becomes easier, Civitella Hilario says.

LoyaltyOne has similarly implemented specific tactics for greening its employees, including videoconferencing, which provides staff with an option other than air travel; in fact, Baxter notes that the company was recently able to avoid a trip to India thanks to a video link. The company also offers discounted transit passes through an arrangement with the local transit provider, and it implemented a fleet of fuel-efficient smart cars for employees to go to out-of-office business meetings.

Selling The Plan

Not all employees will necessarily care that they're helping the environment or helping the organization to save money, which leaves managers in a tough spot when trying to get green programs in gear. Even when employees are technically receptive to green mandates, they might not be following the practices regularly, but Civitella Hilario explains that behaviors can be changed over time.

"We needed to change people's behavior but wanted to provide for a comfortable transition. We have relied on the assistants and office services to encourage reduction in paper consumption. For example, with every print job, the assistants and office services have made it their practice to ask if the document can be scanned or printed double-sided. After a couple weeks of being asked, the attorneys started to request electronic scans or double-sided printing," she says.

TBHR's green strategy isn't driven by force, but instead by a gradual introduction of energy- and environment-saving processes. Civitella Hilario says the firm made a conscious decision to make their program voluntary in the hopes that as

more people participated, the buy-in would increase among nonparticipating employees. The ultimate goal of the program is to infuse green practices directly into the firm's culture so that being green will be as comfortable and obvious as greeting fellow employees in the morning, she adds.

"Increasing your company's and your employees' focus on environmental programs is a project like any technology project," Baxter says. "There is a change-management component. Some people are more open to change than others, but the same change-management tactics apply. We need to communicate regularly, frequently, and clearly; we need to give people the opportunity to pilot new programs before they are fully implemented; we need to give employees the opportunity to participate and offer input. These are all time-tested strategies for achieving buy-in when change is happening."

Top Tip: Cut A Wide Path

Going green shouldn't be a strategy designed for only a certain portion of an organization. Melding the concept with the organization's culture requires an end-to-end effort that involves a personnel cross-section, says Jennifer Civitella Hilario, an associate at Boston-based law firm Tarlow, Breed, Hart & Rodgers, P.C. (www.tbhr-law.com). This means identifying and enlisting the participation of employees among management, midlevel, and administrative staff.

"This will allow for each group of employees to participate in the drafting of policies, which results in more realistic and feasible green initiatives," she says. "For example, it would have hurt our efforts if we did not have assistants provide input on their paper consumption and had management make all decisions, considering the assistants do most of the firm's printing. We wanted our efforts to be significant but also realistic. Having the input of a broad group of individuals allowed us to develop a strong, yet realistic, green program."

That path can also extend beyond employees, as Civitella Hilario recommends reaching out to your landlord and neighboring businesses to discover methods for increasing the overall green effort. For example, after a couple of meetings with its landlord, TBHR saw its landlord install low-aeration faucets in all building bathrooms, initiate single-stream recycling at no additional cost to the tenant, and invite tenants to participate in a green summit to discuss green practices.

Cisco Completes Acquisition Of Tandberg

After being initially rejected in October with a bid of \$3 billion, Cisco has finally overcome its months-long struggle to purchase Tandberg. With a final price of \$3.3 billion, Cisco has acquired the Norwegian videoconferencing company and will soon add Tandberg's solutions to its TelePresence product line. As part of the deal, Tandberg CEO Fredrik Halvorsen will become Cisco's senior vice president and will be the head of the new Cisco TelePresence Technology Group. Cisco now owns 91.1% of Tandberg's shares after the voluntary offer and plans to soon forge a compulsory acquisition for the remaining shares.

AMD's Foundry Spinoff Boosts Q1 Revenue

It wasn't AMD's best quarter ever, but it was the chipmaker's best first quarter with a revenue figure of \$1.57 billion. During the traditionally down post-holiday quarter, the company logged operating income of \$182 million on a GAAP basis. GAAP net income of \$257 million translated into earnings per share of 35 cents. AMD's net income without the impact of its GlobalFoundries deconsolidation and other factors totaled only \$63 million and 9 cents per share. The company has \$1.93 billion on hand in cash and equivalents.

Google Sees Increased Revenue & Profit

Search giant Google posted strong revenue and earnings gains for its first fiscal quarter, beating analyst expectations. Revenue rose 23% compared to the first quarter of 2009, to \$6.78 billion. That's Google's highest rate of growth since the start of the recession in the summer of 2008. Earnings rose 37% to \$1.96 billion. Google added 800

workers during the quarter and says it will hire more. The company also says it will continue to acquire smaller companies and develop products outside of its Internet search advertising business. The increased spending worried investors, however, because it could slow earnings growth. Palm Software

Michael Abbott, Palm's senior vice president of software and services, has resigned from his position, according to filings Palm made with the SEC in mid-April. Abbott was instrumental in the development of the WebOS platform, considered Palm's most valuable asset and the backbone of the company's Pre and Pixi smartphones. Before joining Palm, Abbott was general manager of Microsoft's .NET Online Services. His resignation comes at the same time that HP is finalizing its deal to buy Palm for \$1.2 billion, a move that will give HP a better chance at competing in the smartphone market. In the same SEC filings, Palm also detailed that it offered Douglas Jeffries, senior vice president and CFO, and Jeffrey Devine, senior vice president of global operations, each a \$250,000 cash bonus and stock packages over a twoyear duration to stay onboard—a move viewed as making Palm more attractive to possible buyers.

News

Study Reveals Value Of Cloud Computing

Sand Hill Group, a software and technology research firm, recently conducted a study in which researchers surveyed more than 500 IT executives and held 40 in-depth interviews to learn the value of cloud computing. Results of the "Leaders in the Cloud" study suggest that although there are still reservations about adopting cloud computing, enterprises will be moving applications to the cloud at a rapid rate over the next few years. Of the companies surveyed, 80% intend to spend 7% or more of their IT budgets on cloud computing in the next three years. Sand Hill Group researchers say the majority of respondents (68%) currently spend 0 to 3% of their IT budgets on cloud computing.

Business agility and cost efficiency are the two most important factors swaying IT decision-makers to cloud computing, with 49% and 46% of respondents listing these as top reasons, respectively. "Interviewees in our study described cloud computing's ability to increase ROI, decrease TCO, speed development, improve reliability, and renovate the perception of IT in their companies," says Kamesh Pemmaraju, Sand Hill Group's director of cloud research, noting that the study confirms that the business value of cloud computing is real and that the road to cloud adoption is shorter than many had thought.

The Time Is Now

Pemmaraju says moving to the cloud will result in decreased cost compared to traditional solutions, shorter time for application development on cloud platforms, consolidation of servers, and the reallocation of IT budgets from 80% maintenance to 80% innovation. And, according to Pemmaraju, now is the time to make the change.

"A perfect storm is forming to push cloud computing forward," Pemmaraju says. "First, enabling technologies such as virtualization and SaaS have progressed to the point of widespread adoption. Second, successful vendors and their offerings are filling the market with positive customer experiences. Third, the global recession continues to wring funds from IT budgets and prompt CIOs to look for more ways to save money."

The survey found 97% of respondents have cloud initiatives in progress, 18% of which plan to employ mission-critical projects in the cloud. "The fact is that the cloud phenomenon is happening now, and IT managers should begin—if they have not already done so-to develop a cloud strategy and roadmap on a priority basis," Pemmaraju says.



FEATURED PRODUCT

Simple Storage

Software

Open-E's DSS V6 **Delivers Enterprise-Class** Storage Performance To Companies Of All Sizes

by Daniel P. Dern

BETWEEN CONTINUALLY (and faster) growing data volumes and the need for primary and backup copies in addition to more copies for compliance, business continuity/disaster recovery, and testing, storage remains a major component of IT budgets.

Historically, IT has often had to implement separate storage solutions for blockoriented data (such as email and databases) and for file-oriented data (such as that created by office productivity software and other applications). Those solutions also had to be based on which of the various network technologies would be used. Add reliability and backup requirements, and it's easy to end up



with an expensive set of solutions that can be difficult to manage and grow.

One product helping to address these storage challenges is DSS V6 (Data Storage Software V6), an integrated file and block storage management operating system from Open-E (www.open-e.com). Founded in 1998, with headquarters in the United States and Europe, Open-E develops and sells IP-based storage management software for the SME market. Open-E's software is used at more than 12,000 locations, including at Fortune 500 companies, in more than 90 countries.

Designed With Smaller Companies

Unlike many other storage systems, DSS V6 can handle both NAS (file) and SAN (block) activity and supports iSCSI, Infini-Band, and Fibre Channel functionality all in a single unified storage application for file-sharing and storage consolidation.

Open-E DSS V6 Features

- · Unlimited capacity expansion
- · Replication of volumes up to 16GB
- Automatic failover for volume replication
- NDMP (Network Data Management Protocol) for universal backups
- · WORM for digital archiving
- · Certified with VMware 4.0

DSS V6 also provides a mix of advanced features previously only available to companies with large enterprise budgets, which means a DSS-based solution can be used for storage and backup activities such as high availability (via Automatic Failover and Failback) and disaster recovery (using Remote Mirroring). The results are greater overall performance and value through better data security, increased fault tolerance, and improved availability.

According to Krzysztof Franek, CEO and president of Open-E, Open-E DSS V6 runs on x86-compatible systems and is based on a Linux kernel, the XFS file system, and a number of Linux components. DSS can run either on bare metal systems or as a virtualized appliance, and DSS combines the ease of use that today's SMEs want with the advanced features that enterprise users (and many smaller businesses) need. Open-E DSS V6 competes with storage server software, which must be installed on hardware, and with storage appliances.

Flexibility & Functionality

Unlike many other storage management vendors, Open-E sells its software only through channels; Open-E has no direct sales force. Open-E channels include more than 600 registered OEMs, distributor and reseller partners, and system integrators worldwide. "Businesses of all sizes are dealing with exponential growth in data, so storage is a growing market, making Open-E a good choice for resellers and system integrators," says Franck.

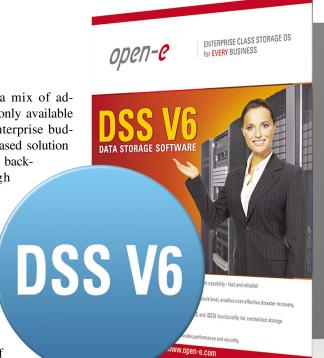
Open-E sells DSS V6 only as software; it does not offer storage hardware/software appliances. This gives Open-E customers the flexibility to work with their choice of hardware, because unlike proprietary appliances, Open-E's DSS software runs on industry-standard hardware and is compatible with more than 600 products from more than 30 vendors. To ensure interoperability, Open-E works closely with leading hardware and software vendors, which allows Open-E OEM and system integrator partners to build and customize storage systems that meet customer requirements for affordability, security, and scalability.

"Using our software, a customer has the option to build a very flexible storage system," says Franek. "They can choose hardware platforms based on industry-standard server components from most known vendors. The platform is very flexible, and the price ratio for the feature list is unique."

Tried & True

Because the Open-E Storage OS has to work with a wide range of hardware and software, the company conducts rigorous testing.

"We have an in-house quality division, testing every build before we release," says Franek, who stresses the importance of software updates to improving his company's products, their functionality, and their performance, thereby providing its customers with efficient, reliable systems. Franek explains that Open-E's goal with its DSS V6 platform is to offer a compact and



cost-efficient solution for customers of all sizes by combining the storage operating system with important business functions.

For resellers or prospective users with a spare PC, Open-E offers a free trial version of its software with the full functionality and no limits to storage capacity as well as a free non-trial version, DSS Lite, which has fewer features and a 2TB limit. DSS V6 will run on just about any x86 system you have lying around, although Open-E recommends at least a 1GHz CPU and at least a gigabyte of RAM.

OPEN-E DATA STORAGE SOFTWARE V6

www.open-e.com

Description: Open-E DSS V6 is a storage software platform that can be used for NAS and SAN solutions via iSCSI, InfiniBand, and/or Fibre Channel connections. Open-E DSS V6 also provides automatic failover and failback for high availability, remote mirroring for disaster recovery, WORM (Write Once, Read Many) support for digital archiving, and NDMP (Network Data Management Protocol) support for universal backup.

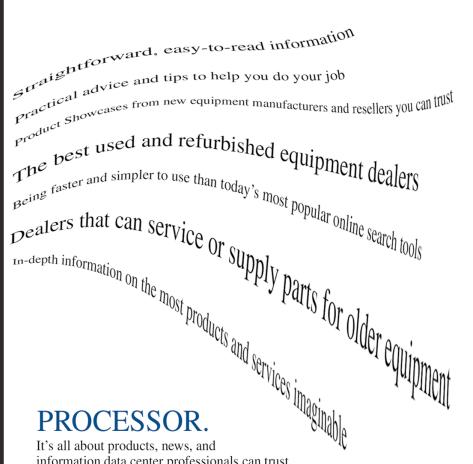
Interesting Fact: "You can easily build high-availability clusters based on our iSCSI failover solutions," says Open-E CTO Janusz Bak. "Cluster technology is mostly difficult to get and can be expensive; with us, it's in the product—you just need to buy copies for each system and learn our QuickStart, which is a single page of instructions, about 10 steps."





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FEATURED PRODUCT

Instant Server Recovery

CMS Products BounceBack Server Keeps You Up & Running

by Kris Glaser Brambila

SERVER DOWNTIME can be a serious issue if you don't have the right tools to help you get back on your feet. BounceBack Server from CMS Products can save your organization precious time by backing up your entire Windows server on an external eSATA or USB drive.

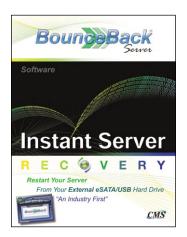
"Given that almost everything in a small business is handled through its computer system, [including] inventory records, point-of-sale transactions, accounting data, customer data, etc., having that system unavailable for use can have a very damaging effect on a business in terms of lost revenue and negative impact on their customers," says Gary Streuter, vice president of marketing at CMS Products.

CMS PRODUCTS BOUNCEBACK SERVER

(800) 327-5773 www.cmsproducts.com

Instant, one-button recovery to an external eSATA or USB drive to help avoid lengthy downtimes. \$285 (download); \$295 (CD/box); ABS-Server backup systems start at \$399





The BounceBack Server software, which you can purchase individually or installed on an ABS-Server drive with capacities ranging from 1TB to 4TB, offers a range of backup and restore options to fit the needs of any organization. For starters, the Instant Server Recovery option immediately restarts your server from your external backup drive. Instant Server Recovery "provides small-business users with the opportunity to keep their Windows Server business system up and running in the event of a hard drive failure," Streuter says.

With BounceBack Server, you can recover your entire server to its last backed up state with One Button Recovery or use the QuickRestore tool to reinstate individual files and folders. You can customize which data you want to back up, choose multiple backup destinations, encrypt with 256-bit AES encryption, or store your server information on a local or mapped network drive. BounceBack Server also lets you schedule a date and time to perform an automatic, unattended backup.

SECURITY

FEATURED COMPANY

Access Control Made Easy

Managing & Protecting Data Is A Fluid Process With Help From Liquid Machines

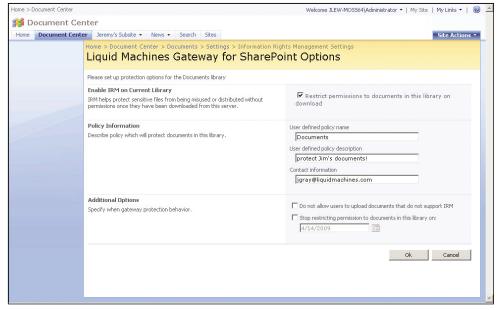
by Robyn Weisman

WHILE ON SABBATICAL in 2001, Harvard professor Mike Smith wanted to solve the problem of how to protect information no matter where it traveled. "Protecting information that falls under industry or government regulations or information that is core to your business, including trade secrets, were the two main drivers [that led to the] founding of Liquid Machines," says Ed Gaudet, senior vice president of corporate development and marketing at Liquid Machines. "In effect, Mike wanted to create the equivalent of having a security guard travel with the data."

About two years later, Liquid Machines (www.liquidmachines.com) launched the first version of its signature Document Control ERM (enterprise rights management) solution and has since been expanding and improving its usability with additional components and integration capabilities. "We think about data from cradle to grave and all points in between," Gaudet says. "We provide policy attributes and controls that give additional granular controls on your data."

Infrastructure Integration

Early on, Liquid Machines focused on the need for properly integrating its products with most enterprises' infrastructures. "As content flows through your corporate environment and touches different systems, you want to make sure you're not breaking any step in the workflow and affecting productivity," says Gaudet. "We place a heavy emphasis on



Liquid Machines offers Gateway APIs that extend functionality for users of fileshares, BlackBerrys, and SharePoint.

making sure we've covered most integration scenarios."

Liquid Machines' dual focus on information and integration has led to several innovations in data protection, most notably that of its patented Policy Droplet control, which lets users access files within their native application and, assuming their enterprise policy allows them to do so, perform common tasks, such as Print, Copy, Paste, and Save As, without undermining those files' security. The Policy Droplet shows governing policy within the application window itself so that users can set the policy of a newly created document or see the level of access they have in one

that was created elsewhere. The Policy Droplet also lets administrators set default policy controls or change policies on a given document dynamically so that an employee no longer has access to a document once he has left the company, even if that file is offline.

Striking The Usability Balance

Persistent security is a core tenet at Liquid Machines. At the same time, the company believes that you must strike a balance between security and the end-user experience. "We thought initially it was important to optimize usability and management of the overall system. You can have a real secure system [where] you lock the data in a vault and require you only use data on this system, but it's not usable," says Gaudet. "You can't build a black box and not pay attention to a company's workflow. It won't get adopted."

As a result, Liquid Machines works seamlessly within most enterprise workflows. For example, with Liquid Machines' Document Control, you can turn a Microsoft Word document into a PDF without having to resecure that newly created PDF before sending it to someone else. The same goes for a Microsoft Excel file that you export as a .CSV file. And if you copy a portion of, say, a PDF and paste it into a Microsoft Word file, Document Control will maintain the access controls of the original PDF on that Word file until an authorized person changes those permissions.

Extensibility Through APIs & Gateways

To extend functionality, Liquid Machines has taken a few common APIs and built them out as off-the-shelf products known as Gateways. "Where we have seen common scenarios and use cases, we took those APIs and productized them," Gaudet explains.

Each of Liquid Machines' Gateways extends Document Control's capabilities by allowing users to share files across a fileshare or mobile network while protecting the data at the same time. "In the case of our Fileshare Gateway, you can make a security policy, which we call an access control list, on that fileshare that controls access to the data," Gaudet explains. "This gateway takes our notion of policy protection and automates the application of that when data is saved or moved to a directory—a common workflow that people use all the time. Users don't have to do anything because the data is automatically protected."

Gaudet says that administrators need to set up a policy and map it to the directory, but once that's done, the protection is automatic. "Any time I save a file and drag and drop that file to that network share or save it in that location, that file maintains its original policy on the file drive," he explains.

Liquid Machines' BlackBerry and Share-Point Gateways work in much the same fashion. "SharePoint files are pretty secure, but once you remove these files from SharePoint, all controls are lost. Our SharePoint Gateway extends [the] control, security, and protection of that data if it is removed from SharePoint, and once that data is uploaded back into SharePoint, we decrypt the file and return it to its decrypted state so that you can index or search it and integrate into your workflow seamlessly," says Gaudet.

The Importance Of ERM

Liquid Machines is moving into the data loss prevention space, which makes sense given that its solutions revolve around information itself rather than applications. "Most DLP solutions are draconian in



LIQUID MACHINES

(781) 693-3600 www.liquidmachines.com

- Liquid Machines offers products that help SMEs protect and manage their data by maintaining access control policies even when data is on the move or being accessed by different users.
- The company also offers Gateway APIs that extend its Document Control application's capabilities to platforms such as BlackBerrys.
- "We think about data from cradle to grave and all points in between," says Ed Gaudet, senior vice president of corporate development and marketing at Liquid Machines. "We provide policy attributes and controls that give additional granular controls on your data."

nature. You're either blocking something from going or you let it go," Gaudet says. "It makes more sense to integrate with a rights management system that identifies whether a piece of content is sensitive in nature and then automates the protection of that content by using an ERM policy."

Gaudet goes on to say that ERM policies are like a fileshare gateway on steroids. "Not only can you automate persistent protection, you can track how data flows throughout your system," adds Gaudet.

Featured Liquid Machines Products

Product	Description
Document Control	Client/server application that controls access and usage to information no matter where that information goes. Works in conjunction with more than 400 file formats and can be used either with Microsoft RMS or as a standalone solution.
ERM Dashboard	An intuitive dashboard that gives multiple views into such security metrics as real-time data access by users and actions performed on protected data. Provides extensive reporting and automatic email alerts when unusual activity exceeds configurable thresholds.
Fileshare Gateway	A prebuilt API that lets enterprises apply Liquid Machines Document Control access and usage policies to network directories. Documents remain protected even when they are downloaded or removed from directories.
Gateway for BlackBerry	A prebuilt API that extends Liquid Machines Document Control access to messages and attachments protected by Microsoft RMS to BlackBerry users.
Gateway for SharePoint	A prebuilt API that automatically encrypts and extends access and usage permissions of Microsoft SharePoint files even when data from these files is being used in other applications.

Optimize Your Firewalls

Keep Your First Line Of Defense Strong

by Brian Hodge

A NETWORK'S FIREWALL is a crucial line of defense, but it can also become a liability to the business it's supposed to protect. Even under good conditions, a poorly optimized firewall can turn into a communications bottleneck, and if it's hit with an attack, the overload may bring things to a crashing halt. Here's how to make sure your firewall runs at peak efficiency.

Signs That It's Time To Optimize

Some key performance numbers can quickly reveal your firewall's health. Matt

Key Points

- · Looking at baseline CPU load and memory utilization, plus signs of performance declines without significant traffic increase, should tell you when it's necessary to optimize.
- A crucial but sometimes overlooked aspect of optimization is knowing a firewall's fast and slow ports and configuring them appropriately.
- Metadata, policy overlap, and analysis tools can help ferret out firewall rules that may be candidates for removal.

Dreyer, product line manager of network security management at Cisco Systems (www.cisco.com), recommends starting with the firewall's CPU load. A normal load between 10 and 30% of its maximum will allow for a healthy amount of headroom if it ever comes under attack.

"If a firewall is at its baseline running 60 or 70% CPU, it's working too hard," Dreyer says. "That's a good indication that it's struggling with the number of connections or the size of the policy or both."

He also advises making sure that memory is below 50% utilization and watching for overly long compile times of its

Luther Martin, chief security architect at Voltage Security (www.voltagesecurity .com), recommends keeping track of performance relative to traffic: "If your network traffic isn't changing much but your performance is decreasing over time, that may indicate that your firewall configuration is part of the problem. This is happening more frequently because IT is being more driven by the need for regulatory compliance . . . having to simultaneously comply with the data security and privacy laws of dozens of different jurisdictions."

The result can be a buildup of overlapping policies, which can eventually erode efficiency.

Ease The Firewall's Burden

Before targeting your firewall's core operations, try reducing the demands being put on it. Firewalls have undergone years of feature creep, which can degrade performance when extra features are utilized.

"A good rule to follow is to just let a firewall do what it does best and leave other jobs to other appliances," Martin says.

In addition, Cisco's Dreyer recommends knowing which firewall ports are best for the job required. It's not unusual for a firewall, particularly a lower-end model, to have both fast and slow sets of ports.

"This is information typically not available on a vendor Web site," Dreyer says. "But if you ask for a detailed performance benchmark, most vendors will be able to tell you where you should be plugging the cables in for the best performance."

Examine Rules & Policies

Optimizing a firewall often means consolidating and eliminating rules, but it's essential this be done with caution to avoid unintended consequences.

"Every rule on a firewall was put there for a reason," Dreyer warns. "Any time you consolidate rules, you're changing something that was done with intent."

As a safer alternative, Dreyer recommends an object-oriented approach: Create groups of IP addresses and subnets into objects and then use those objects to keep the number of policies lower.

"Instead of creating a new firewall rule for every new server I bring up, I'd be better off adding a new server to an address object and address group," he says. This way, you can continue growing your network while maintaining a set number of rules that govern its components collectively.

When you do need to tinker with the firewall's rules, start with its metadata. If the firewall has a hit counter and records last hit dates, you can weed out rules that may be candidates for removal. Another path to the same end is data mining logs for the last hit date of a particular rule.

Voltage Security's Martin cites the incremental buildup of rules added for regulatory compliance as another chance to consolidate: "There's almost always overlap between new policy and existing ones, so there's usually an opportunity to sort out exactly what change needs to be made and how to implement it in a good way."

Depending on your firewall, rule order may be a factor in its efficiency. Traditionally, firewalls process a rules list from top to bottom, so it's logical to place oft-used rules at the top and seldom-used rules at the bottom.

Then again, firewalls are increasingly being designed to employ algorithms that make rule order irrelevant—in essence, optimizing on the fly, eliminating the need to do this yourself.

Use Rule Analysis Tools

To assist with optimizing a rule base, you may want to use one of a number of analysis tools, both commercially available and open source, that partially automate the job. This will be of negligible benefit if your firewall already uses optimized algorithms, but if it doesn't, a thirdparty tool can make it easier to reconfigure the rules.

"In practice, these tools are good, but there is a caveat," says Dreyer. "If you put a good tool in a bad person's hand, you're going to end up with a mess."

Dreyer outlines one example of how to proceed with caution: Say you ran a tool and it identified 25 rules that could be retired. Rather than deleting them on the spot, it would be wise to first dig into the firewall logs and double-check that the flagged rules have had no hits for a significant time period—say, one year—and are unlikely to have a detrimental effect on future traffic.

"They can save you a lot of time," Dreyer concludes, "but you do need to understand how the tool works and what the potential exposures are of any sort of optimization."

Exercise Vigilance

Firewall optimization should be an ongoing process. How often it's necessary depends on the business environment, but at minimum, Dreyer recommends reviewing the rule base on a quarterly schedule.

He also advises keeping in mind that the key performance metric is no longer pure bandwidth, but connections per second, driven by highly interactive Web pages that grab hundreds of objects from multiple locations. This can really stress a firewall.

"The nature of traffic has dramatically changed over the last five years or so," he says. "Now is a pretty good time for people to relook at their firewall estate and see what the overall health is."

TIPS FOR REDUCING YOUR FIREWALL'S WORKLOAD

Luther Martin of Voltage Security (www.voltagesecurity.com) suggests looking for simple system adjustments that can add up to a significant reduction of your firewall's workload. Here are three recommendations:

- Implement lots of filtering at edge routers instead of at your firewall.
- · Keep your VPN separate from your firewall. The cryptographic operations VPNs use can take lots of computing power. Let them get this somewhere else.
- · The speed and mode of the firewall interface should match those of switch and router interfaces. If that's not configured correctly, it can reduce performance.

Study Ranks Broadband Speeds

News

According to Akamai's latest State Of The Internet report, broadband users in Delaware have access to the highest-speed Internet in the United States. Delaware averages 7.6Mbps per connection, while the rest of the country averages significantly slower 3.8Mbps connections. The next closest state, Vermont, offers average connections of 5.8Mbps, followed by Massachusetts (5.7Mbps), New Hampshire (5.6Mbps), and Nevada (5.5Mbps). Compared to the rest of the world, the United States is woefully behind other tech-centric countries, ranking 22nd in broadband speed. South Korea ranks highest with 11.7Mbps, followed by Hong Kong (8.6Mbps) and Japan (7.6Mbps). But despite the lag, some U.S. cities offer blazing-fast connections, including Berkeley, Calif., (18.7Mbps); Chapel Hill, N.C. (17.5Mbps); and Stanford, Calif. (16.9Mbps).



More malware is coming from emerging countries, most notably Brazil, India, and Russia, according to the latest Symantec Internet Security Report. Additionally, targeted attacks on enterprises, such as phishing, are on the rise, and Web-based attacks are the preferred method for most malicious activity. Another particularly alarming development is the proliferation of inexpensive crimeware kits, which allow amateur or unskilled users to launch attacks. Although the global economy overall has been in a downturn, the underground cybercrime industry has flourished, bringing with it an increase in targeted attacks on financial institutions and leading to speculation that such attacks are particularly lucrative.

Yahoo! Q1 Results Show Improved Profit

At the end of Yahoo!'s first quarter, the Internet company posted \$1.59 billion in revenues, a slight increase from the \$1.58 billion it reported a year ago. The company's net income topped out at \$310 million, a significant rise from \$118 million a year ago. Yahoo! earned 2 cents per share for income from Microsoft reimbursements and 5 cents per share from the sale of Zimbra. Ad revenue from affiliate sites rose 7%, although search ad revenue fell 14%. Yahoo! anticipates it will make \$1.6 billion in the second quarter.

Microsoft To Fix Polish

Microsoft says it will modify the Polish language browser ballot screen so Internet Explorer won't always be on top of the list. According to Microsoft's Rob Weir, it is happening due to an unintentional glitch caused by a JavaScript error. So far the problem has only been reported in the Polish language browser version. The browser ballot, which was implemented to satisfy an antitrust settlement brought by the European Union, is supposed to randomly list 11 different browsers in order to be fair to other browser vendors.

Browser Ballot

MESSAGING & TELEPHONY

<u>PRODUCT SPOTLIGHT</u>

Email Security

Product

Barracuda Spam & Virus Firewall



Description

The Barracuda Spam & Virus Firewall is available in eight models and supports up to 100,000 active users with no per-user licensing fees. Its architecture leverages 12 defense layers: denial of service and security protection, rate control, IP analysis, sender authentication, recipient verification, virus protection, policy (user-specified rules), Fingerprint Analysis, Intent Analysis, Image Analysis, Bayesian Analysis, and a Spam Rules Scoring engine. In addition, the entire Barracuda Spam & Virus Firewall line features simultaneous inbound and outbound email filtering with the inclusion of sophisticated outbound email filtering techniques, such as rate controls, domain restrictions, user authentication (SASL), keyword and attachment blocking, triple-layer virus blocking, and remote user support for outbound email filtering. The Barracuda Spam & Virus Firewall's layered approach minimizes the processing of each email, which yields the performance required to process millions of messages per day.

- Blocks spam, viruses, phishing, and other email attacks
- Forwards only legitimate email, reducing load and storage on mail servers
- Supports per-user customer filtering policies
- Accelerates MS Exchange and Lotus Domino recipient verification

Best For: SMEs looking for an easy-to-use and affordable solution.

Price: Starts at \$699 with no per-user or licensing fees

Cisco Spam & Virus Blocker



As a hardware appliance with a Web-based console, the Cisco Spam & Virus Blocker can be configured for offices with 50, 100, or 250 users. According to Cisco, it can catch 99% of spam, and it has a false-positive rate of less than one in 1 million. Installation is designed to be quick and simple, so you can have your device set up and ready to go in minutes. Additionally, SenderBase automatically updates to the Cisco Spam & Virus Blocker to keep your enterprise safe from the latest spam, viruses, and other malware.

- Two 2.5-inch 80GB hard drives with 2GB of memory
- Includes both hardware and software for 50, 100, or 250 users
- Blocks 99% of spam and has a false-positive rate of less than 1%
- Uses SenderBase to update the program, so your organization is guarded against the most recent viruses and spam
- Browser-based console and appliance can be set up quickly

Best For: Small enterprises looking for spam and virus protection.

Contac

(888) 268-4772 www.barracudanetworks.com (800) 553-6387 www.cisco.com

Product

Proofpoint Shield



Description

Proofpoint Shield is a SaaS product that prevents 80 to 90% of spam and other emails containing suspicious content from reaching your on-premise appliances. It is designed to protect your organization against threats such as unexpected email volume increases, denial-of-service, and directory harvest attacks. Using Proofpoint's Dynamic Reputation technology combined with netMLX technology, Shield determines whether a message is accepted, blocked, or throttled. Then Proofpoint MLX scans the accepted message for spam, and if it passes, it gets sent to your on-premises appliance to be treated with more security measures to ensure your employees' email inboxes are safe.

- Works with both Proofpoint and third-party email security appliances
- Can reduce the volume of malicious emails delivered to your on-premises appliance by up to 90% and re-establish normal and predictable email volumes
- Uses Proofpoint MLX, Dynamic Reputation, and netMLX technologies
- Offers flexibility for growing organizations
- Tightens protection against spam, denial-of-service attacks, and directory harvest attacks

Best For: Growing organizations looking for a cloud service.

Price: About \$3,750 per 250 employees

Symantec Brightmail Gateway Small Business Edition



Symantec's Brightmail Gateway Small Business Edition boasts 99% effectiveness, with less than one in 1 million false positives. It offers zero-day protection combined with content filtering, antispam, and antivirus protection for outbound and inbound email as well as instant messenger. The Web-based console lets IT personnel manage policies and reporting and view attack and trend information. Also, the Symantec Global Intelligence Network provides updates so your organization is protected from the latest threats.

- Delivers antispam, antivirus, content filtering, and data loss prevention to outbound and inbound email and instant messenger
- Provides 20 filtering technologies, zero-day antivirus protection, and per-domain and policy-based TLS (Transport Layer Security) encryption
- Offers a Web-based console to track attack and trends data and includes a variety of reporting capabilities
- Automatically updates your program to ensure real-time protection against the latest threats
- Appliance offers two 80GB hard drives with Serial ATA RAID 1

Best For: SMEs with fewer than 250 employees looking for an affordable, comprehensive solution.

Price: Sold on a per-appliance basis; about \$2,500 for 100 users in the first year

Contact

(408) 517-4710 www.proofpoint.com

(877) 294-5255 www.symantec.com

PRODUCT SPOTLIGHT

MESSAGING & TELEPHONY

Processor's Product Spotlight highlights options available in key data center product categories, providing product information side-by-side for easy comparison.

Compiled by Tessa Warner Breneman

McAfee Email & Web Security Appliance



The McAfee Email and Web Security Appliance for SMEs combines email and Web security for a more efficient and cost-effective security solution. It features antispam, antivirus, and anti-malware capabilities combined with zero-day threat protection. With the Email and Web Security Appliance, you'll also have protection from worms, rootkits, and Trojans. In addition to tough antispam features, the Email and Web Security Appliance has a low false-positive rate as well as the ability to scan both incoming and outgoing messages and attachments. It also includes customizable dictionaries, threshold counters, whitelists, and content rule wizards to help you set and enforce strict security policies. In regard to Web security, you will get URL filtering, quarantine management, and help from McAfee SiteAdvisor and McAfee ePolicy Orchestrator.

- Combines email and Web security in a streamlined and efficient security appliance
- Enforces usage policies and offers compliance tools
- Offers find-and-fix solutions and automatically updates itself for protection against the latest threats
- Dashboard includes information such as email and Web traffic views and a list of all your security solutions
- Includes McAfee TrustedSource, SiteAdvisor, and ePolicy Orchestrator

Best For: SMEs that need both email and Web security solutions.

Proofpoint Messaging Security Gateway P340



With a mix of solutions for small to midsized businesses as well as enterprise organizations, the Messaging Security Gateway hardware appliance offers enterprise-level MTA (Mail Transport Agent) and deep-packet multiprotocol content scanning. Additionally, Messaging Security Gateway provides perimeter security, antispam, antivirus, secure messaging, and outbound content security. With its plug-and-play deployment, it is simple to set up and also easy to administer and maintain using the centralized Web-based console. Proofpoint's Enterprise Protection and Privacy Suites are both available. Enterprise Protection provides a comprehensive list of Proofpoint's email security and management features, while Privacy protects all your private information.

- Proofpoint Enterprise Protection Suite includes connection management, spam detection delivered by Proofpoint MLX, signature-based and zero-hour virus protection, email firewall, deep content monitoring, and outbound filtering
- Proofpoint Enterprise Privacy Suite offers a solution for organizations with strict regulatory compliance and data privacy requirements
- Offers plug-and-play deployment and centralized Web-console for simple administration
- Uses Proofpoint MLX technology to accurately identify malicious content in emails and other files
- P340 appliance model offers a 250GB mirrored capacity combined with support for up to 60,000 messages per hour

Best For: Those looking for an appliance that's easy to manage and deploy.

Price: \$3,995

(888) 847-8766 www.mcafee.com (408) 517-4710 www.proofpoint.com

Trend Micro InterScan Messaging Security Virtual Appliance



Trend Micro's InterScan Messaging Security Virtual Appliance implements antispam and antispyware email protection at the gateway to filter malicious content. The antivirus and antispyware features also guard against malware tunneling, phishing scams, botnets, and zombies. Utilizing Trend Micro's Smart Protection Network and cloud-based services, the InterScan Messaging Security Virtual Appliance is precise and quickly responds to threats. InterScan Messaging Security Virtual Appliance also features a multitiered approach and offers flexible content filtering, hardware selection, and messaging security in order to comply with your specific policy. Finally, a central management console accessible from any Internet connection streamlines the configuration and reporting of events.

- Provides flexible configuration and content filtering as well as a centralized management console
- Offers effective and accurate antivirus, antispam, and antispyware tools
- Features a multitiered approach to spam and phishing protection
 New capacities to tighten email security are quickly deployed when needed
- Utilizes Trend Micro's Control Manager and Smart Protection Network tools

Best For: Organizations looking for a flexible and virtual email security gateway appliance.

Price: For a perpetual license: \$16.86 per user for 1,000 users. Renewal/maintenance is 40% per year for following years. Multiyear discounts are available.

Webroot Email Security Service



Webroot's cloud-based email security program, Email Security Service, is able to block 100% of the known email viruses, and it includes zero-hour and heuristic filters to guard against unidentified viruses. In addition to scanning inbound messages, Email Security Service also filters the content of outbound emails and attachments to guard against data loss and performs an image analysis to ensure all the content going in and out of employee inboxes is appropriate for the workplace. It is designed to help you to craft rules and filters by including premade compliance dictionaries and templates for HIPAA, PCI, credit card numbers, Social Security numbers, and more. The Email Security Service also includes corporate email encryption and email archiving.

- Scans content from more than 300 different types of attached files
- Because it's in the cloud, employees can still access inboxes and send emails in the event of an outage or if a server is down
- Archives emails by capturing, storing, and indexing them
- Guarantees it will block more than 98% of spam and phishing email threats
- Web-based console lets you manage the email policies, track messages, and view email traffic with real-time logs and reports

Best For: Enterprises looking for a comprehensive cloud solution.

(888) 762-8736 www.trendmicro.com

(866) 915-3208 www.webroot.com News

CIOs Clamp Down On Social Network Use

More than a third of CIOs interviewed in a recent Robert Half Technology survey are implementing stricter social networking policies. The survey, which polled about 1,400 executives from companies with 100 or more employees, found that 38% of CIOs are creating stricter policies for employee use of social networks, while only 17% said they've become more lenient.

Dave Willmer, executive director of Robert Half Technology, says enterprises are concerned about security risks and the distraction to employees that sites such as Twitter and Facebook create. Of those enterprises that are taking a stricter approach, 23% are doing so with respect to personal use, and 15% are placing limits based on business use, the survey found.



"Some employers might be concerned with their firm's information security and network integrity, while others might be concerned with the release of confidential information," Willmer says. "It's also important to note that a larger number of employers are becoming stricter with regards to personal use, which could mean they are concerned with productivity and drawing their employees' attention away from primary work responsibilities."

Finding A Balance

Willmer says there are steps enterprises can take to create a balance between social networking's risks and benefits. He advises avoiding a one-size-fits-all approach.

"Each organization is unique, and it's likely that you'll need to consider a number of factors," he says. "Seek input from stakeholders throughout the company. Be sure to include IT, legal, human resources, and employees on the front lines. Each will have a different perspective and will be able to present a diverse set of concerns and benefits."

Once a policy has been agreed upon, Willmer says it should be clearly communicated to all employees. The policy should also be included in new-hire training sessions and employee handbooks, and it should be posted on the company's intranet.

Some companies are blocking access to social networking sites altogether. A previous Robert Half survey found that 55% of enterprises are taking this approach, a figure that stayed the same for the most recent survey. Willmer says it's difficult to predict whether these two surveys mean that enterprises will continue to restrict business and personal use of social networking sites.

"Our two recent surveys seem to show a trend in that direction, but it's important to remember that 10 or so years ago, there were a lot of similar conversations happening around the introduction of email in the workplace," he says. "People today don't give a second thought to email in the workplace because it's so essential to conducting business."

by Kyle Harpster

CLIENTS

CASE STUDY

Joining COBOL & Java

Veryant's isCOBOL Helps Pizzeria Deliver Updated Point-Of-Sale Systems

by Robyn Weisman

SINCE ITS FOUNDING in 1963, Donatos Pizzeria has grown from a single restaurant in Ohio to about 200 of them across six states. Of these restaurants, about 60% are company owned, while the other 40% are franchises; however, as the chain continues to grow, more of these new restaurants will be franchised.

Donatos' COBOL-based PoS (point of sale) solution increasingly was becoming both dated and expensive, explains Mike Born, senior systems engineer at Donatos Pizzeria (www.donatos.com). "We were looking primarily at the fact that we were getting ready to do some significant growth, and the product we were using . . . was going to be cost-prohibitive to grow out and had issues in terms of some of the new functionality that we were adding," Born says. "The traditional system has been just a text-based thing, and we have modified that to use a touch front end by using Web services in the back end. The old COBOL didn't help us get there, basically."

Born searched the Internet and trade publications to find a replacement for Donatos' current system. Most of the COBOL-based solutions he evaluated were either too expensive, posed compatibility issues, or both. Fortunately, there was one exception: isCOBOL Application Platform Suite by Veryant (www.veryant.com). "The isCOBOL was by far the easiest in terms of taking our code base and making relatively few minor tweaks and getting the product up and running," Born says.

Getting Up-To-Date

Born says that Donatos decided on isCOBOL about a year ago and began implementing the solution last summer. Until recently, each Donatos restaurant had a small Linux server and about eight to 10 IT-based workstations running their old COBOL solution. Although the stores themselves are fairly self-contained, each individual store on a nightly basis creates a polling file with some sales and inventory data. This information gets transmitted to the main office, where it is imported into the main network's data warehouse.

Born's team has mapped out a strategy that works in stages to move its restaurants' POS from the old solution to a new Java-based system. is COBOL acts as the bridge to make this happen by giving Born's team the ability to supply ISAM (Indexed Sequential Access Method) file access to applications on the updated Java

platform and then move these ISAM files to a relational database.

This plan enables Donatos to deploy POS terminals that can display legacy applications in conjunction with the updated GUI. In addition, isCOBOL provides programmers with the same GUI regardless of operating system, be it Windows, Linux, or a mobile platform. And isCOBOL programs operate the same in a distributed network



environment using is COBOL Server as they do on a local one.

isCOBOL works especially well with Donatos' timetable. Users can continue to use familiar applications while the transition is taking place. COBOL-based applications and Java-based applications share the same ISAM data files, so the company doesn't have to lose what it has already invested in legacy applications.

Building Out The New System

To test out is COBOL, Born's group took its existing source code and performed a mass compile in the APS (Application Platform Suite) to make sure it would actually build properly. "About 95% of the programs went over straight out of the box, so to speak, minus a few little things here and there. I actually had a clean build of the product in less than two days," Born says.

"Beyond that, we put [isCOBOL] on the system, took a copy of our legacy product and isCOBOL side by side, and banged on them side by side just to make sure we would get the same results," he says.

According to Born, Donatos' is COBOL rollout has gone very well without any major issues. Already, 15 Donatos restaurants have completed the migration from the legacy system to isCOBOL, and Donatos has scheduled the same implementation for 30 more stores over the next two to three months. He hopes to complete the transition over the next year but acknowledges that the company may need some additional time because of the logistics involved. "We'd like to have it all done today, but we are geographically dispersed throughout the Midwest and the South, and it just takes a lot of time to do 180 of these things," says Born.

Training By Doing

According to Born, is COBOL has not only done everything Donatos needed it to do, it has done so without creating new issues for his staff to contend with. For one thing, says Born, Donatos wanted to leverage the Java platform and upgrade the POS systems in all of the chain's restaurants without forcing his small IT staff to have to be retrained in Java or rewrite new Java code from scratch. The isCOBOL Compiler, one of the six primary tools in the isCOBOL APS, allows for code development in an ANSI-compliant COBOL environment that enables users then to deploy this code on platforms that support JVM (Java Virtual Machine). isCOBOL Compiler offers users an objectoriented programming method with native support for Unicode and JavaBean graphi-

Perhaps the most useful aspect of isCOBOL Compiler is that you don't need to know Java to use it. In fact, Born, who describes himself as a COBOL programmer, uses is COBOL to help him learn the ins and outs of Java as Donatos migrates toward a Java-based system. "The fact that isCOBOL actually compiles into Java has been an aid in the learning curve of that piece," Born says. "If I'm trying to figure out something in Java, I can write a little routine in COBOL [and] compile it in isCOBOL, which then compiles it to Java, and I can look at it and kind of use that as a learning basis of what I need my Java application to do."

Excellent Price & Support

Veryant is COBOL's ability to let Born's staff take Donatos' code base and get it running in a platform with minimal work and hassle was Donatos' No. 1 reason for choosing it over its competitors. Its price point was a close second, given that it was a less expensive solution than the other incomplete solutions that he researched.

Born says customer and technical support were not a part of the original equation; however, he notes that Veryant's support has turned out to be another strong point with the isCOBOL solution. "It's been nothing short of excellent. They understood that we had set a fairly aggressive time frame for our project and have been highly responsive," Born says. "When something didn't quite work the way we needed it, they have been quick to suggest alternative ways to accomplish it or, in some cases, do some tweaks to the product to help us out. And once we got past the initial build-out of the system, our support needs have been pretty minimal," Born says.

Veryant is COBOL Application Platform Suite

A suite of products that gives users the ability to develop, maintain, and modernize their COBOL-based applications and compile and deploy these applications into Java.

"The fact that isCOBOL actually compiles into Java has been an aid in the learning curve of that piece. If I'm trying to figure out something in Java, I can write a little routine in COBOL [and] compile it in isCOBOL, which then compiles it to Java, and I can look at it and kind of use that as a learning basis of what I need my Java application to do," says Mike Born, senior systems engineer at Donatos Pizzeria.

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News

A Look At Cloud Printing Services

Service Providers Offer On-Demand Printing Virtually Anywhere

by Kurt Marko

THE PRINT ENVIRONMENT is one of those staid backwaters of IT that's mature to the point of seeming quaint in this dynamic era of online applications and Web content. Yet one of today's hottest IT phenomena, the cloud, could shake things up and renew print's relevance for today's mobile workforce. Although a necessity for most workers, print's technology, features, and utility seem locked in the '90s. With the Web dominating content distribution and the imminent ubiquity of Apple's iPad, tablet PCs, and ereaders, all seem to spell doom for hard copy. Yet there are times when there is no substitute for paper, and a small cadre of innovators is looking to the cloud as a way to enable printing from any device to any place.

Initially, cloud printing services address two key but vastly different problems: the inability of mobile devices to print and the expense of four-color process printing. Although printing from a PC to an attached or local network printer could hardly be easier, the same cannot be said when using a mobile device that lacks a printing subsystem. Ever try printing an email message from your iPhone or BlackBerry?

Conversely, as video screens replace paper as the standard means of displaying the content we consume daily, those times when print is required increasingly call out for something special, whether higherquality, special paper, or bound documents, which are characteristics of jobs

Key Points

- Printing is the latest IT service to be subsumed in the cloud, with several business models emerging to provide on-demand location-independent printing and usage-based pricing.
- Cloud services could become the primary method by which mobile devices, such as smartphones and tablets without embedded print subsystems, send jobs to the nearest printer. The services enable mobile users to beam a print job to the cloud, use a central directory to discover locally available printers, and have the output sent to their selection. These are ideal for road warriors needing a hard copy when they are away from the office.
- People are also using the cloud to upend the traditionally centralized process of printing and distributing bulk high-quality marketing, sales, and training literature. Instead, you can electronically transmit print jobs, along with a list of shipping locations, to a cloud provider, and then that provider will farm the print job out to a local printer, thus reducing costs for storage and transportation while saving time.

Given the mobility of today's workforce and concomitant proliferation of handheld devices, the timing seems right to Henning Volkmer, president and CEO of ThinPrint

The other promising area for cloud printing is brokering the bulk production of high-quality color output such as brochures, data sheets, business cards, or posters. According to Toby LaVigne, founder and CEO of HubCast (www.hub cast.com), these materials are traditionally farmed out to a local print shop, printed in bulk, and shipped out as needed. This centralized print-and-distribute model is inefficient and costly. "Because of that model, people tend to print more than they need, put it in a warehouse, and then distribute it around the world," says LaVigne. Due to the short shelf life of such material, he adds, "Studies show that between a third to a half of that ends up in a Dumpster."

Advantages

Like other cloud offerings, Basiliere says printing as a service can lower IT's capital investment and support workload by reducing the need for internal, companyowned printers. Similarly, the cloud's usage-based pricing reduces operational cost because users only print as needed. "What printing services do is change the business model from a printer as an asset to having access to a printer," says Basiliere. "For an IT guy, there are lots of potential benefits and very little risk," says Tony Dolph, HubCast's VP of marketing. "It's a cloud application, the cost of admittance to the dance is very low . . . you get an entirely variable resource without having to pay for it."

Electronic print distribution also helps the environment. "More than three-quarters of our customers bring the environment up as a big issue," says LaVigne.

Future Directions & Recommendations

We're still early in the development and evolution of cloud-based print services; however, vendors appear committed to supporting a broad spectrum of devices, developing an ecosystem of service providers, and brokering print transactions between the two.

Basiliere encourages enterprises seeking to make their printing operations more cost-effective to examine cloud printing because, he says, it's already become a viable option for routine bulk projects such as marketing collateral, business cards, letterheads, brochures, and the like. Much as email is far cheaper and faster than sending a letter, the cloud is a more efficient means of sending printed material to far-flung locations.

Printing as a service can lower IT's capital investment and support workload by reducing the need for internal, company-owned printers.

better suited to an offset printer and not a PC peripheral.

The marriage of print and the cloud, through so-called printing as a service, could well offer the simplest solution yet to these vexing problems.

Cloud Printing Services

Printing as a service is analogous to other cloud offerings, according to Gartner Research Director Pete Basiliere, but differs in that it employs hardware, such as an IaaS (infrastructure-as-a-service) storage service, and workflow software, such as a gardenvariety SaaS product.

In the near term, the services most interesting to enterprise users enable printing from printer-challenged smartphones. Sridhar Solur, HP's director of managed enterprise solutions and leader of the company's CloudPrint initiative, says HP's vision is "to liberate the print experience from the tyranny of the device and the operating system."

(www.thinprint.com). He says, "we're seeing a whole lot of cloud-space devices coming up that get all of their data and applications from the cloud but that do not have operating systems like those on laptops and where we need to provide the entire print system as a service." Although the services initially focused on enterprise smartphones, experts agree these will quickly extend to other mobile devices such as the iPad and tablet PCs.

How Cloud Printing Works

Cloud printing enables mobile users to print from their smartphones to any available printer, whether in an airport lounge, in a local business center, in the office, or at home. Applications no longer rely on local operating systems and print drivers to print but instead send jobs to a cloud-based printing service where the project is formatted and sent to the selected printer. Users connect to the service from their wireless carriers or Wi-Fi hotspots, and they can choose from a list of cloud-available printers based on location, desired print quality, end-user rating, or cost. Cloud printing supports a variety of business models, including free, paid, and advertiser-supported services.

HP's Latest Memristor Research Could Prove Immensely Valuable

Last month, HP Labs revealed potentially game-changing advancements in its memristor research in the pages of the science journal *Nature*. R. Stanley Williams, HP senior fellow and director of HP's Quantum Science Research group, says a memristor can be defined as "an ideal passive two-terminal electronic device that is built to express only the property of memristance (just as an ideal inductor expresses inductance)." HP first unveiled memristors in 2008, and, according to Williams, the term itself is a contraction of "memory resistor."

Williams explains that an analogy for a resistor is a water pipe, but "an analogy for a memristor is an interesting kind of pipe that expands or shrinks when water flows through



it. . . . If the water pressure is turned off, the pipe will retain its most recent diameter until the water is turned back on. Thus, the pipe does not store water like a bucket (or a capacitor)—it remembers how much water flowed through it."

Untapped Potential

HP's recent advancements in its memristor research prove that a memristor is not only capable of being "a memory element (a non-volatile latch), but simultaneously can be a logic element (a gate)," according to Williams. HP has indeed realized through its latest research that memristors can do far more than researchers first anticipated.

"They not only hold the potential to surpass the performance of flash memory in the short term, but also make it theoretically possible for memory and computations to be performed using the same devices—thus eliminating the differentiation between processor and memory (or storage)," Williams explains. HP has discovered immense possibility for memristors, he says, as they "could change the standard processor-memory paradigm of computing and, by enabling higher-density, more powerful systems, extend the functional equivalent of Moore's Law well into the future even after transistors stop getting smaller."

It will not be too much longer before the tech industry begins to see the benefits of memristor technology in the marketplace. "The memristor is moving out of the lab and into fabrication," Williams says. "HP has created productionready architectures for memory chips using memristors and expects devices incorporating the element to come to market in about three years." Although the first application of memristors is NVRAM (nonvolatile random-access memory), Williams has his own theory for the true possibility of memristors: "As experience shows, the most valuable applications of memristors will most likely come from some young student who learns about these devices in the next couple of years and has an inspiration for something totally new."

by Candace Ross Blomendahl

Maintain Legacy Applications

Keep Older Software Running Without Draining Your Budget

by Bridget Mintz Testa

MAINTAINING AN ENTERPRISE'S legacy software may not be the most ideal task, but it is essential for smooth operations. And should you fail to maintain existing apps, your enterprise could eventually fail to function.

It's not too surprising, then, that a recent report from Forrester Research forecasts that 55% of all 2010 enterprise software budgets will be spent on ongoing software operations and maintenance of existing solutions. For SMEs, the amount of the budget spent on software maintenance is about the same—52%.

Enterprises have several options for reducing the maintenance portion of their software budgets. Deciding which option to use, however, takes some careful consideration, as you'll need to assess the role of the software across the entire enterprise.

The Elements Of Software Maintenance

The bulk of an enterprise's legacy software maintenance fees often go to vendors for bug fixes; updates, such as legal changes required for important business processes; and upgrades to the next software release, according to Holger Kisker, Ph.D., senior analyst with Forrester and co-author of the 2010 software budget trends report.

Robert Charette, principal and founder of independent software consultancy Itabhi, adds security, open software, and systems integration to the list of software maintenance elements. "Most companies don't understand their maintenance costs," he says. "What we count isn't as inclusive as it ought to be. The costs now include a lot of things nobody worried about in 2005 because we had in-house software."

Events, including failure and nonfailure incidents, also make it onto the list of software maintenance elements, according to Robert C. Anderson, director of process development and quality assurance at Computer Aid.

An event could be a technical support call, which is often about the user, not the software. A failure incident means "something is broken, where a person can't do the job, and information to and from the organization is cut off," Anderson explains. If an employee loses a report or can't turn his terminal on, that's a nonfailure event. "The largest part of software maintenance is the day-to-day interaction with the user community," Anderson says. "There is an inordinate amount of time spent on fixing incidents or on tech support calls. This is non-value-added work."

You can also add the maintenance of software developed in-house, along with the same user support that commercial software requires, to the list of elements of software maintenance.

Reduce Software Maintenance Costs

If commercial software is poorly chosen for the business or poorly integrated with other applications, the maintenance can be enormous. Anderson recommends that a company should only buy commercial software if it satisfies 80% of the company's business functions. For the remaining 20% of business functions, Anderson says that companies should change them to fit the software instead of customizing

Software Maintenance Cost Estimates

Although more than 50% of an enterprise's software budget sounds like a lot to spend on maintenance, it really isn't. Robert Charette, founder and principal of Itabhi, says spending more than 50% on software maintenance has been typical for more than 20 years. "Maintenance costs range from 50 to 70%," says Charette.

the software to fit the functions. If a company tries to customize the software to fit that last 20% of its business functions, Anderson says it will be very expensive. Choosing the right commercial software is a critical preventive step in reducing maintenance expenses.

Anderson adds that day-to-day maintenance also takes up a lot more time than it should. "We're not training the IT people about the business processes and how IT fits into that and the business functions and missions," he says. "The IT people should be spending time with users to understand what the applications mean to the users and the business."

Perhaps an even larger problem is the lack of training on the software. "Maybe application software support has a manual from the original version of the software but nothing about more development," Anderson says. He points to the all-toocommon situation where an employee understands the software, but when said employee goes on vacation, nobody else has the knowledge to help users. Documenting how software works eliminates this problem. "Capturing the relevant knowledge for applications reduces costs because you don't have to duplicate [the] effort," Anderson says. "You're not doing the same job over and over again."

Enterprises may be able to reduce software maintenance costs by reducing those large maintenance fees to software vendors. "In some cases, customers work with outsourcing providers to provide application management services," says R "Ray" Wang, a partner focusing on enterprise strategy at research firm Altimeter Group. Enterprises often find third-party maintenance solutions appealing once they realize the size of their maintenance fees. "At half the cost of the vendor's prices, a third-party maintainer can be a good deal for companies not planning to upgrade to future versions," Wang explains.

Maintenance Alternatives

SaaS and cloud computing apps are increasingly popular alternatives to maintaining legacy software. Before taking the leap to either option, however, Charette says enterprises need to assess their software. If an application provides a necessary service but does not provide a competitive edge for the enterprise, then Charette says it's OK to move it to the cloud or use SaaS. "But for other applications with a special use or benefit—you won't want to move those to the cloud," he says.

The time to do this "is when you're facing major upgrades," Charette explains. "Don't be an early adopter unless you can do it with applications that can be

Key Points

- Many enterprises do not clearly understand all the elements that make up software maintenance. These include vendor maintenance fees, user help, security, open software, systems integration, events, failure and nonfailure incidents, the day-to-day interaction with the user community, and maintenance and user support of in-house developed applications.
- Reducing legacy software maintenance costs starts with picking the right software for the enterprise. These costs can also be reduced if IT personnel are trained on what applications mean to users and the business and when they understand how the software works.
 Using third-party software maintainers, which charge about half of software vendors, can also reduce costs.
- Use SaaS and cloud applications only for commodity services such as payroll.
 Software that gives your business a competitive advantage should stay in-house.

hived off by themselves and aren't critical to your company. We're not talking about a competitive advantage, just cost savings."

If you're not quite ready for the cloud, then you can go with a third-party maintainer instead, Kisker says. Just as with the cloud, software you turn over to a third party shouldn't be a key differentiator for your business, and its function should be frozen.

"The rest is the traditional software vendor model, although it would be better to move to a subscription model if the vendor offers it," Kisker says.

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DATA CENTER MANAGEMENT

SIX QUICK TIPS

Align IT & Business Goals

Get Both Teams On The Same Page

by Chris A. MacKinnon

ALIGNING DATA CENTER and IT goals with business goals can sometimes remind you of two different politicians: They just can't see eye to eye. There are many reasons for this, but here we take a look at a few tips that IT can use to adjust to the business side of the fence, and vice versa. Because, after all, IT supports the business side. Or is it the other way around?

Use Data Center Assessments

According to Ron Bednar, manager of marketing and customer insight for Emerson Network Power (www.emer son.com), enterprises—even SMEs—are becoming increasingly dependent on the data center. He says, "A good way to align goals and skillfully plan future investments is to start with a data center assessment. These assessments are designed to identify, evaluate, and resolve cooling and power vulnerabilities that could threaten data center performance and efficiency. The best assessments use industry benchmarks and best practices to identify opportunities to increase availability, reduce costs, and unlock capacity and then provide prioritized and actionable recommendations."

Taking a proactive approach also helps to prevent costly downtime of business-critical equipment, Bednar says. According to a 2006 Emerson Network Power business continuity survey, 38% of large enterprises estimate that a full business day of downtime could cost them more than \$500,000 in revenue.

Bednar suggests a comprehensive assessment before undergoing strategic projects, such as virtualization, consolidation, or blade implementation, and for those that are capacity constrained, have experienced unplanned downtime, or are experiencing IT equipment degradation due to excessive heat. He adds, "The assessment gets IT, facilities, and business managers speaking a common language with recommendations to increase systems and data availability, decrease energy costs, and unlock hidden capacity."

Anticipate Infrastructure's Impact On Business Services

According to Vikas Aggarwal, CEO of Zyrion (www.zyrion.com), the decisions an organization makes on where to prioritize effort or investment in IT infrastructure should be based on the business services that a piece of IT infrastructure affects, rather than on the siloed performance or "localized" health of a specific device or IT component. "It is important to remember that not all the constituent elements of the IT infrastructure are equal in terms of their importance to ensuring

performance of key business services," Aggarwal says.

Aggarwal says investments in IT infrastructure must be justified in business terms. He says when management is demanding increased accountability, they want to ensure that IT infrastructure investments are being made to ensure optimal performance of key business services and processes. "Management does not care whether a set of devices are down or not," he says. "What they care about is the effective functioning of business services. The IT team has to ensure that the information gap is bridged and that investment recommendations are made based on the impacted business services."

Use Infrastructure Management Solutions

In Bednar's opinion, addressing specific IT infrastructure needs used to mean making adjustments to individual systems until desired results were achieved, whether they were increased efficiency, reduced downtime, or an optimized human capital investment. Unfortunately, he says, this approach resulted in many IT managers experiencing a degree of "tunnel vision" with regard to their infrastructure strategies, ultimately leading to higher costs of ownership over the life of a data center. He says, "In recent years, however, many IT managers have learned that the implementation of an integrated infrastructure management solution enables them to simultaneously optimize their data center performance, improve energy efficiency, and maximize use of resources via a centralized user interface."

Bednar says the installation of integrated management and monitoring software provides immediate visibility into infrastructure, streamlines data center operations with comprehensive management controls, and can lower long-term operational costs via proactive maintenance programs. "For example," he explains, "when used as part of an integrated critical infrastructure, these solutions can be deployed quickly to evaluate IT, rack, row, and room sensor networks to provide real-time performance data needed to optimize a data center's power and cooling utilization."

Aggarwal says using BSM (business service management) solutions can also help bridge the IT-business gap by connecting business and IT objectives. "Ensuring the optimal performance of IT infrastructure is done within the

Best Tip:

Define Your Goals

According to Todd Merrill, spokesperson for Network System Architects (www.nsai .net), IT must have a good set of goals to work toward. He says that many times IT will have to work with the business side to define the goals in such a way that IT understands its responsibilities. "Good goal definition may result in service-level agreements between IT and business as a way of demonstrating that goals are, or aren't, being met."

Easiest To Implement:

Create Savings To Fund Major Changes

Getting new money can be difficult, according to Andy Woyzbun, lead analyst with Info-Tech Research Group. He says it's very difficult to get approval for unbudgeted funds or significant budget increases for infrastructure. "Find ways to divert expenses to major initiatives," Woyzbun says. "For example, bringing disaster recovery inhouse, and saving on fees, might provide funds for data center upgrades."

context of how critical business services and processes are impacted," he says. "BSM systems link the underlying IT infrastructure to the supported business services and processes and provide a correlated and business-oriented view of the performance and health of the IT infrastructure."

Focus On The Big Picture

Aggarwal says that within most IT organizations, infrastructure and operations investments are driven by independent performance indicators that are gathered and analyzed in a piecemeal manner, rather than holistically viewing and understanding the impact of the given IT infrastructure on the overall business. "With this approach," he explains, "when a given component within the distributed or complex IT mesh performs poorly, it automatically becomes a candidate for replacement or remediation, even if the impact on the supported business services and business processes is nominal. This approach also distorts where IT team members and management should focus their attention."

BONUS TIPS

■ Take time to meet. IT and the business managers must sit down once a month and review the results of the past 30 days, review any incidents and their resolutions, chart time to repair, and compare results to the documented goals or SLAs, says Todd Merrill, spokesperson for Network System Architects (www.nsai.net). The

motive for these meetings is not punishment or rationalization, but rather constant improvement.

■ Work out the points of contention. IT must remember that they exist to support and enable the business, Merrill says. Sometimes IT can be enamored with elegant architectures and

solutions, while the business wants consistency, flexibility, and reliability. Although the two departments may never see eye to eye, it's important to provide training (for the constant stream of new and changing technology) and keep your environment current by testing and installing patches and new releases on a monthly basis at minimum.







Securing The Cloud

An Industry Alliance Seeks Certification For SaaS & Cloud Vendors

by Bridget Mintz Testa

If YOU LIVE IN A TOWN or city of any size, you lock your doors so strangers can't simply walk in—it's a minimum security precaution. In the cloud, however, the minimum security precautions aren't defined. Companies that use cloud-based applications and SaaS simply must trust the provider.

For most companies, that's simply not enough. To start addressing the problem, the 1-year-old CSA (Cloud Security Alliance) launched its Trusted Cloud Initiative in March at the RSA 2010 Conference in San Francisco. The Trusted Cloud Initiative's goal is to develop a certification program for secure and interoperable identity management in the cloud. It plans to have a baseline in place by year's end.

Risky Business

On a scale of one to 10, how risky is it for your company to use cloud applications such as Google Docs or SaaS offerings? "It's hard to assess the risks," says Jay Heiser, a research vice president at Gartner. "Not only do you not know where agreed that the need for security standards for the cloud is urgent.

"Today, the consumption of SaaS happens at the departmental level," says Nick Nikols, vice president of product management for ID and security at Novell (www.novell.com). "Often, it's more than the CIO or CSO are aware of. Department managers . . . can essentially do an end-run around the IT department."

The lack of verifiable security is the issue. "The focus [on SaaS] has been on ease of use and low cost," Nikols says. "The focus on security hasn't been there. When CIOs and CSOs see how much SaaS is being used, they get nervous. Decisions are made at lower levels, and it's unclear how safe the data are."

The Trusted Cloud Initiative

Cloud security covers a lot of territory. To deal with that, the CSA broke it up into 13 "domains." One domain focuses on architecture, five on IT governance in the cloud, and seven on cloud operations. All seven operational domains include security, but three of them—application security, encryption and key management, and identity and

Key Points

- Cloud applications and SaaS offerings currently offer low cost and ease of use, but no one knows how secure they are, and there's no objective way to assess risk.
- The Cloud Security Alliance, through the Trusted Cloud Initiative, is aggregating identity management and interoperability standards to form the basis of a reference model, which will in turn serve as the basis for an industry-wide security certification of SaaS and cloud vendors.
- The Trusted Cloud Initiative is examining a variety of models, including Java, Veri-Sign, and the Payment Card Industry Data Security Standard, to develop guidelines for a cloud security certification.

existing usernames and passwords to access something in the cloud than to duplicate it all

"If you have identities everywhere, it's a big security risk," Reavis says. "Leveraging trusted ID providers to access cloud

resources is secure and user-friendly."

CSA doesn't intend to create a whole new body of standards for identity management. "CSA believes that standards exist to achieve secure in-

teroperable identity in the clouds," Reavis says. "The Trusted Cloud Initiative will assemble the existing standards." That's happening right now; next comes a reference

model and then guidelines or requirements for certification. If some standards are missing, CSA will create them.

"The best organization to drive standards for clouds is CSA," says Bill Roth, Log-Logic's (www.loglogic.com) chief marketing officer. "Some group of people needs to drive the benchmark for what a secure cloud is, and CSA is the organization to do it. It has a solid bunch of names behind it." Corporate members of CSA include AT&T, Cisco, Microsoft, Novell, LogLogic, RSA, Symantec, VeriSign, and many others.

Cloud Security Certification Criteria

Although it's tough to know what the identity management cloud security certification criteria will look like, Roth thinks it could borrow some pieces from Java. "Java is my model for what these standards should look like for deployment," he says. "For example, how to run your Web site in the cloud or run your software or store your data. There may be technological standards like packaging applications for the cloud and for data."

Another model is the Payment Card Industry Data Security Standard, which ensures that merchants follow secure credit card practices. "The PCI model has certification guidelines that are published and testable," Nikols says. "The cloud security criteria may overlap PCI, but it won't be identical. PCI is just one potato in the pot." Nikols thinks VeriSign's method of securing financial transactions with browsers is another possible model.

Ultimately, Nikols says, the goal is a "good housekeeping" seal of approval for SaaS and cloud providers. Users will finally be able to lock the doors to their cloudbased data.

"Today, the consumption of SaaS happens at the departmental level. Department managers . . . can essentially do an end-run around the IT department."

-Novell's Nick Nikols

[the cloud] is, but also you don't know how well the infrastructure can protect you from outsiders, other users, or administrators of the service providers. People have no control over what happens in the cloud."

To assess attitudes toward cloud computing security and the need for standards in the area, CSA and the IEEE jointly conducted a survey just prior to the RSA Conference. IEEE Computer Society and corporate members and CSA and affiliated associations' members participated. Although 84% of the respondents acknowledged that some areas of cloud computing might not be ready for standards, 82%

access management—are nothing but. Because of the importance of identity and access management, this is the domain of the Trusted Cloud Initiative. Other CSA initiatives will address the remaining domains.

"One of the primary security issues is having trusted and interoperable IDs so an enterprise can access clouds with its own credentials," says Jim Reavis, CSA's executive director. "ID management relates to protecting data."

For example, if a hacker can spoof the identities of a company's employees, he can then access that company's data. In terms of interoperability and identity management, it's better to use a company's

Auditors, Meet Cloud Security

Although it's the Trusted Cloud Initiative's goal to establish certification requirements for cloud security, that's just a baseline. For a certification to have legal meaning, it must have the approval of auditors. "We're hoping that the auditors will recognize the value of that certification, even if they come up with their own requirements," says Nick Nikols, vice president of product management for ID and security at Novell (www.novell.com). "Auditors haven't really looked at SaaS yet, and there isn't any industry consensus on what's needed."

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News

Get Ready For Virtual Workers

When Employees Go Remote, IT Needs Change

by Jean Thilmany

MANY MORE ENTERPRISES are letting employees work remotely. But before enterprises can give employees the goahead, IT managers will need to ensure their enterprise's security and network connectivity are up to the task.

Key Points

- Consider hosted backup and security applications for remote workers' laptops.
- VoIP allows virtual workers to use a work number for telephones and cell phones and can save long-distance costs.
- IT will likely need to investigate instant messaging applications for remote workers to use.

They may also need to put new technologies in place or boost the technological resources they already maintain, such as VoIP and instant messaging capabilities. And IT managers may want to gear up to handle the mobile devices these employees can use, if necessary, for their jobs.

Security Comes First

To begin, enterprises will need to put remote worker policies in place that have been agreed upon by both IT managers and enterprise executives. Then, IT will need to back up those policies by implementing network access controls, says Eric Paulak, managing vice president at analyst firm Gartner.

The easy answer to security concerns created by remote workers is to simply give every remote worker a fully secure laptop and any other needed mobile access ensure remote employees have of collaborative tools to call under the collaboration that the collaboration the collaboration that the collaboration that the collaboration that the collaboration the collaboration that the collaboratio

For instance, to back up remote workers' information, IT managers might look to using backup software to copy data over a wide-area network to the enterprise data center. The method offers centralized data protection and allows IT staff to do the backup and, if needed, the restore process, says John Scharfglass, president of Compugeeks (www.compugeeks.net).

Enterprises may also want to consider a cloud-based backup solution or another backup option such as a real-time WAN-optimized continuous data replication solution available as host-based software, Scharfglass says. These software-based solutions are less expensive than hardware backup and are easier for IT staff to implement and manage onsite, he adds.

Part of any remote-worker policy must include establishing best practices that you expect all users to follow when it comes to security and to keeping botnets at bay, says Michael Maloof, CTO at TriGeo Network Security (www.trigeo.com).

You'll need to instruct your remote workers on how to avoid botnets and malware on their machines. For instance, they must not open suspicious emails or click links within emails, according to Maloof. In addition, IT staff will need to send regular messages to remote workers reminding them to update antivirus software and reiterating tips on avoiding botnets and malware, he adds.

The Importance Of Tools

To help far-flung team members bridge the distance and feel like part of a team while they hash out ideas, IT staffers must ensure remote employees have an arsenal of collaborative tools to call upon, says Colleen Garton, president of Garton Consulting Group in San Diego.

Part of any remote-worker policy must include establishing best practices that you expect all users to follow when it comes to security and to keeping botnets at bay.

device and lock those down so employees can't venture outside the network. But completely locking down networked devices could hamper employee productivity, Paulak says.

IT managers may want to look to implement external or hosted network and security services for mobile and laptop devices, he says. Garton advocates instant messaging. This type of quick back-and-forth messaging, she says, encourages relationship and team building and is appropriate for quick exchanges between offsite employees.

But IT managers will need to ensure their IM channel is secure, Garton stresses. Compugeeks' Scharfglass says that, when setting up IM, managers will need to choose between a private IM channel purchased through a vendor or a public channel such as the chat functions available via email or social network providers.

Keep in mind that the public channels pose security risks, he adds. The closed IM applications are offered as a hosted service, but many enterprises choose to run them in-house both for security purposes and to better integrate the application with in-house directories, says Rob Ingram, IBM senior product manager for Lotus Sametime. The applications are then

What About The BlackBerry?

If remote workers are clamoring for a BlackBerry to help them in the field, IT managers might consider a hosted BlackBerry service. These services can scale with a company's growth—or when more workers go virtual—and allow for desktop and laptop syncing, says Elizabeth Shea, president of SpeakerBox Communications. Her company has made the move to a hosted BlackBerry environment, for which it pays a flat monthly fee.

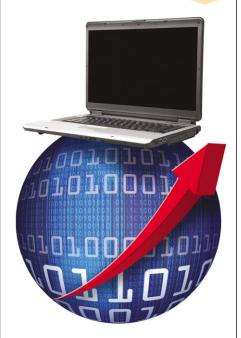
The same is true for other mobile devices such as the iPhone. For the iPhone, IT managers may look to implement a mobile management and security solution that lets them control and enforce their policies, says John Herrema, chief marketing officer at Good Technology (www.good.com).

available on offsite users' desktops and, in many cases, can be integrated within the enterprise's email program, he adds. These applications encrypt the messages that flow between users.

Garton says the tool remote workers rely upon most is the telephone. For this reason, enterprises that institute a remote-worker policy may want to think about adopting VoIP. The move will likely save money and will allow remote workers to retain their in-office telephone numbers. The move also offers a converged voice and data system, says Katherine Trost, analyst at Nemertes Research.

Address At IT Level

Allowing for remote workers will bring a host of security and network concerns, though these can be easily addressed at the IT level, Garton says. After a short period of adjustment, remote workers and the tools and devices they need can be managed in much the same way IT managers already accommodate for onsite staffers, she adds.



IDC Shows Global PC Shipments Continue Growth . . .

If PC shipments for the first quarter are any indication, this will be a much improved year for the PC industry. According to IDC, global PC shipments grew 24.2% for the quarter, reaching about 79.1 million. During the same quarter in 2009, the market declined by about 7%, which was the lowest growth since 2001, according to IDC. Overall, HP shipped about 15.6 million PCs during the quarter, claiming a leading market share of 19.7% and showing 19.9% growth over its first-quarter 2009 performance. Acer ranked second in firstquarter shipments (about 10.8 million) and market share (13.6%) and experienced 42.5% growth from quarter to quarter. Lenovo led all vendors with 58.3% growth from quarter to quarter but ranked fourth behind Dell in shipments with about 7 million PCs shipped and a market share of 8.8%. No. 3 Dell shipped about 10.5 million PCs.

... & Gartner Agrees

Worldwide PC shipments were up 27.4% year over year for the first quarter, according to a recent study from Gartner. HP maintained its reign as top seller, but Gartner notes that HP's improved sales marked lower increases than the competition. For instance, Acer jumped up to second place in market share with a 54.3% increase in year-overyear growth. And sales of Asus computers grew by 114.8% in 2010, which jumped the company into the top five of desktop and notebook manufacturers. In the United States overall, PC shipments were up 20.2%, marking the second consecutive quarter of growth, according to Gartner.

Wireless Carriers Face Saturation

The International Association for the Wireless Telecommunications Industry, CTIA, recently reported that the U.S. market for cell phones and wireless service is nearly saturated; more than 90% of adults own a cell phone, which is going to make attracting new subscribers difficult for cellular service providers. The current upswing in customers signing up for prepaid wireless services does not bode well either. Carriers value their postpaid and contract-bound customers because they represent more reliable streams of income. Prepaid customers tend to pay less overall and aren't subject to early termination fees.

IBM Has A Strong Quarter

IBM's financial statement for the first quarter shows modest to substantial gains on an annual basis. Led by an 11% hike in software revenue, the company reported diluted earnings per share of \$1.97 on revenues of \$22.9 billion. That EPS figure represents a 16% climb year over year, while the revenue marks an increase of 5% above the first quarter of 2009. The results were enough to prompt the company to upwardly revise its estimated EPS for the calendar year to \$11.20 or more.

News

Apple Sees Successful Second Quarter

Apple's second fiscal quarter ended March 31 with solid financial results thanks to a doubling in sales of its iPhone, which rose to 8.57 million units. Apple also posted strong Mac sales of 2.9 million units-33% more than in the previous quarter. Apple says its secondquarter success has raised its profit by 90% to \$3.07 billion during the quarter, a significant increase from the \$1.62 billion the company posted during the same time last year. In the third quarter, Apple predicts it will reach revenues between \$13 billion and \$13.4 billion. Apple's CFO Peter Oppenheimer says Apple's current goal is preservation of capital because of the continued uncertainty of the economy.

Brokerage Firm Fined For Data Breach

Brokerage firm Davidson & Co. is being fined by FINRA (Financial Industry Regulatory Authority) for its role in a data breach that occurred in 2007. The fine amounts to \$375,000. FINRA says that Davidson failed to implement recommended security measures that could have helped it avoid an SQL injection that resulted in the stealing of about 192,000 customer names, account numbers, Social Security numbers, and other sensitive personal information. A spokesman for Davidson says that safety measures suitable for the time were in place at the time of the attack, though Davidson is opting to pay the fine to put the matter behind it.



HP Office Raided In Bribery Investigation

HP's Moscow offices were raided by Russian officials in response to bribery accusations against the company. HP executives reportedly paid \$10.9 million in bribery money to win a contract to supply computer equipment to Russian government agencies starting in 2000. Three HP employees linked to the case were arrested in December and charged with fraud; they have since been released on bail. It is believed that HP's upper management was not involved in the bribes and had no knowledge of such activity. According to the prosecuting attorney, HP is being treated as a victim in the case.

Study Examines Whether Cloud Computing Is Too Risky

The ISACA's (Information Systems Audit and Control Association) Risk Reward Barometer results found that about half (45%) of U.S. IT professionals say the risks

of cloud computing outweigh the benefits. Of the 1,809 who filled out the survey, only 10% indicate that they plan to use cloud computing for mission-critical IT services; 26% do not intend to implement cloud computing for any IT services. Only 17% of those surveyed indicate that



the benefits of cloud computing outweigh the risks. Overall, ISACA found that 79% of respondents say they'll invest the same amount or slightly more on risk management this year.

DATA CENTER MANAGEMENT

SIX QUICK TIPS

Data Center Colocation

What To Look For When Choosing A Service Provider

by Bruce Gain

USING A COLOCATION provider's resources can offer enterprises a long list of benefits and cost-cutting opportunities. For example, instead of having to upgrade your data center's electrical and cooling infrastructure when adding new server racks, a colocation provider can already have everything in place for your enterprise—often for a fraction of the cost of an in-house build. Also, unlike cloud storage providers that house your data on servers that remain on a nebulous cloud network that you cannot physically track, colocation providers can let you have direct control of your data at a known physical location.

Colocation, however, is not without its caveats. Just like a data center manager must be adept in security, maintenance, and other essential skills, a provider must be able to match your enterprise's required skill sets to keep the servers up and running properly. To help you gauge whether a particular colocation firm is up-to-speed, here are some things to check.

Virtualize For Better Control

Virtualization can serve as a powerful tool to streamline data center management and consolidate capacity by packing virtual servers into a single physical unit, but for colocation, the technology becomes even more useful. With servers and equipment located at a colocation provider's site in addition to your enterprise's data center, virtualization can combine everything from different physical locations into a single virtualized interface.

"It is much easier to bring everything together into a smaller set of things to manage," says James Weir, CTO for UShareSoft (www.usharesoft.com).

However, when you are just using server space on one or more machines at a colocation provider's site, virtualization can pose some concerns. "When your [servers] are virtualized at a [colocation site], you may share memories and disks," Weir says. "So the big worry is that you could be sharing [sensitive data]."

As a remedy for concerns about sharing data with other customers that are using the colocation's services, technologies and tools exist that isolate virtual machines, Weir says.

Make A Certification Checklist

A colocation provider may be able to meet your checklist of demands for your

application needs and adhere to your enterprise's security policies. But for a more formalized stamp of approval, industry-recognized third-party certifications exist that can help ensure that a colocation provider meets a wide range of performance and security criteria. "Has the facility undergone a recognized audit or certification to prove they have met a certain level of adequacy?" says Joseph Malec, a security analyst for the financial services industry and the St. Louis chapter president of ISSA (Information Systems Security Association). Common audits include Systrust, SAS 70 Type II, or CICA 5970, while certifications include ISO27001, Malec says.

There are also compliance issues to be concerned about, of course. But after making sure that a particular provider can handle your compliance requirements, enterprises can realize cost savings by not having to manage regulatory compliance in-house. "Meeting regulatory demands can be expensive, and smaller organizations usually don't have the money or the demand for their services to justify the investment," Malec says.

Get Physical

One major benefit colocation offers compared to transferring your data to a cloud network is that it is possible to check and inspect the physical site where the servers and equipment will be housed in person. "Don't just look at the technical parts of the [colocation] data center, but look at the physical, as well," says Clive Longbottom, service director for business process facilitation at Quocirca (www.quocirca.com). Longbottom says your questions should include: "How well is power brought into the facility, how redundant are the grid feeds, and how much backup power is available? How much cooling is available, and how will this grow with your needs?"

Also, because it will be the third party's staff that will be onsite where your servers are hosted, it is necessary to know exactly who is allowed near your equipment and, more importantly, your data, Longbottom says.

Then there is the physical structure of the building itself in which your equipment will be housed. It is important to ask how long the firm has been in business and whether it has experienced a security breach or some other disaster, Malec says. However, it is also wise to get answers to these questions, if possible, from sources that are not directly affiliated with the provider's firm. "I once audited a professional data center in an old office building in an urban area," Malec says. "I did some research afterwards and found out the building had caught fire a few years earlier. They did not tell me that when I was there."

Prepare For DoS Attacks

Given the seriousness of DDoS (distributed denial of service) attacks, a colocation provider's policy for this security risk is particularly important to review, especially if your enterprise's business plan is dependent on the server or servers that might be at risk.

"DDoS attacks are common and can cripple your business. When evaluating your bandwidth options, ask potential providers if they provide DDoS-mitigation

Best Tip:

Get Disaster Recovery Right

Any data that is transferred and located at a colocation site is almost certainly worth backing up, but disaster recovery plans are not necessarily something that a provider will offer. It is thus imperative to make sure your data and applications are not only backed up but can become available in a few minutes if and when disaster strikes at the colocation site. "DR is not necessarily a component of a colocation solution. It is really incumbent on customers to plan accordingly," says Will Charnock, vice president of technology at The Planet (www.theplanet.com). "If they have a need for backup services and data mirroring, [credible providers] offer solutions with data mirroring at different locations at multiple sites."

Most Practical Tip:

Know What To Do If The Firm Goes Bust

The majority of new businesses fail within a few years, and even seemingly established companies can suddenly shut their doors—with your data and equipment inside. It is therefore essential to have a plan in place in case the provider finds itself in bankruptcy court. "If the co-lo company goes bust, you do own the hardware still, but [questions to ask] include how to get at it, how to transfer it somewhere else, and how to get it all up and running again," says Clive Longbottom, service director for business process facilitation at Quocirca (www.quocirca.com).

capabilities," says Will Charnock, vice president of technology for The Planet (www.theplanet.com). "If not, then you might consider installing a DoS-mitigation platform of your own to protect you in case of attack."

Also, if a provider does offer DDoS protection, it is necessary to check and gauge exactly how it works and whether it can meet your particular needs.

"You have to ask yourself how important it is if the server were to go down, and plan accordingly," Charnock says, "The service provider might offer DoS protection on a high level, but it may not be high level or granular enough for your needs."

BONUS TIPS

■ Get the firewall you need.

Most providers offer firewalls
of some kind, but it is essential that the firewall is configured and ready to handle your traffic levels and required
functionality, says Will
Charnock, vice president of technology at The Planet

(www.theplanet.com). "Map out the devices and data that need to be exposed to the Internet and those that don't, and plan your security policies appropriately," he says.

■ Layer your security. Data housed offsite requires

don't, customer data or need a userverification process for file
ays. transfers. "Evaluate different
levels of security, as some data may be more sensitive than
other data," Charnock says.

different security measures

whether you are protecting

and a layered approach,

Meeting Of The Minds

What To Expect From Uptime Institute Symposium 2010

by Blaine Flamig

AS A PRIMER TO Uptime Institute Symposium 2010 (www.uptimeinstitute.org). slated for May 17 to 19 at the Hilton New York in New York City, we posed the following questions to Andy Lawrence, Uptime Institute Symposium program director and research director for ecoefficient IT at The 451 Group.

What are the biggest IT-related issues facing today's small to midsized enterprise?

"Those SMEs that have data centers face particular challenges. Small and midsized data centers lack economies of scale, and their operators find it difficult to afford. install, and manage the increasing amount of equipment and software now being used to manage the data center. Many of these data centers weren't purpose-built and therefore have become progressively less efficient as more equipment is installed. PUE (power usage efficiency) ratios at small, older data centers are [believed to be] worse than industry averages," Lawrence says.

"Because they lack the numbers of specialist staff seen in enterprise data centers, midsized organizations often struggle to manage the growing complexity of modern data centers, both in terms of the scale and all the red tape surrounding their management," he continues. "As legislation grows around health and safety and around ecoefficiency and as business demands for operators. Today, these communities, the Site Uptime Networks, include representatives from 100 of the largest institutions and corporations in the world. Members learn from each other and from the

Uptime Institute

high availability and scalability grow, it's likely that more midsized organizations will choose to move into colocation facilities or, where possible, use cloud services."

What should *Processor* readers know about the Uptime Institute and its symposiums, networks, services, etc.?

"The Institute provides education, publications, consulting, certifications, conferences and seminars, independent research, and thought leadership for the data center industry and for data center professionals," Lawrence says. "Founded in 1993, the Institute pioneered the creation and facilitation of private end-user knowledge communities for data center owners and Institute via closed members-only conferences, site tours, benchmarking programs, best-practice sharing, abnormal-incident collection, and shared metrics."

According to Lawrence, the Uptime Institute is also a provider of site assessments and consulting services via Uptime Institute Professional Services, its management and engineering consulting division. That division also manages the Tier Program, which Lawrence explains is a program consisting of standards, technical papers, and certifications for data center professionals and sites. Additionally, Lawrence says, "A recent, significant expansion of the Tier Program is Operational Sustainability, which classifies

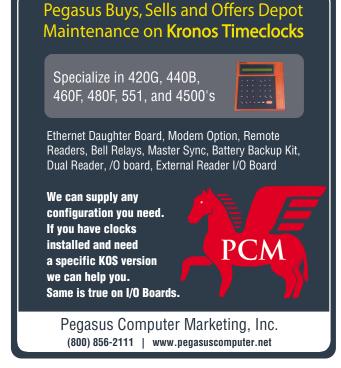
the site management factors beyond Tier that impact data center performance."

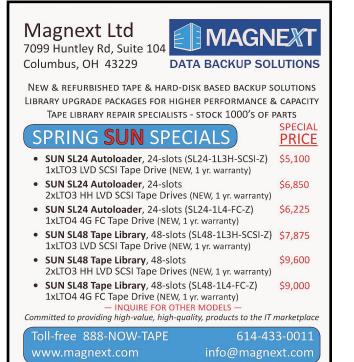
Who should attend the upcoming symposium, what will be covered, and what will they learn?

According to Lawrence, the symposium's purpose is to bring the best minds in the business together to discuss the ways in which the IT industry, users, and solution providers alike can meet their overarching goals of improving energy efficiency while also improving business productivity and mission-critical computing availability and reliability. "The themes of the event are 'availability, scalability, sustainability.' There's a strong, but not exclusive, focus on data centers," Lawrence says.

Lawrence says the symposium is designed to explore the industry's state, understand long-term economic implications, and focus on strategies companies can immediately deploy. Receiving the most value from the symposium are those coming from a corporate mandate or with the intent of developing plans and initiatives to save their organizations money annually in power costs and to improve operating effectiveness, he says. "They are people who have direct responsibility for IT and data center engineering and operational management. Increasingly, they're managers who are now expected to improve the energy efficiency, and in some cases, carbon emissions, of the operations over which they have responsibility. They come from organizations where energy now has board-level and C-suite attention and where efficiency goals may have already been set or soon will be," he says.









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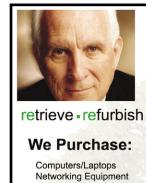
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App Performance Could Benefit From New Research

Researchers at North Carolina State University have demonstrated that a new memory management technique can improve PC performance in applications that traditionally underutilize multicore processors. This problem is one that has both hardware manufacturers and software developers desperate for solutions. For instance, Microsoft and Intel are devoting \$20 million over the next five years to finding an answer. But the NCSU researchers believe that

are devoting \$20 million over the next five years to finding an answer. But the NCSU researchers believe that memory is the key, at least in the short run.

Yan Solihin, a project leader and associate professor of electrical

and computer engineering at NCSU, believes that memory bandwidth is a major limiting factor that chipmakers such as Intel and AMD must account for in their future designs: "Doubling the number of cores [in line with Moore's Law] also doubles the memory bandwidth needed to feed data into these cores, assuming the cache size per core is unchanged. To keep bandwidth requirements constant, the cache size must increase by four times on average." But for now, NCSU's memory management technique has shown that it is capable of increasing application performance by up to 20% on systems running multicore processors.

Making The Unparallel Parallel

Some software applications feature highly parallel operations that scale well between multiple cores, but those that don't tend to feature more demanding memory management requirements. Simply assigning these dynamic management functions to a dedicated thread-what the researchers are calling the Memory Management Thread-enables them to appreciably improve performance with almost no additional processing overhead. "Applications that are hard to parallelize are often too complex to parallelize using traditional methods. We targeted a subset of hard-to-parallelize applications that rely on a lot of memory allocation and deallocation activities."

Solihin explains that software parallelization is a hardware problem in the server space and a software problem in the client space. "Hardware support for virtualization enables several server applications to run on the same multicore chip. For client machines, such as personal computers and laptops . . . there are many threads belonging to the operating systems or applications, but at a given time, usually only one thread is running."

Solihin says it's easy for software developers to take advantage of the new technique: "Existing applications need to be recompiled with MMT library, but their source code does not need to be modified."

by Andrew Leibman

DATA CENTER MANAGEMENT

Inside IT Governance

How Governance Frameworks Help Create Visibility & Accountability In IT Organizations

by Christian Perry

As the relationships between IT and business grow ever more complex in today's enterprises, the need for a coherent, transparent organization framework has become a top priority. In the past decade, IT governance concepts have enjoyed increased adoption in organizations of all sizes, in turn helping both IT and non-IT executives to get a better handle on IT structure, decisions, projects, and other concerns. Further, they've helped enterprises stay on track with challenging compliance efforts.

"Companies are constantly looking for ways to ensure they are spending money smartly on projects that produce the most value for the organization," says Kriss Poll, principal at Innovar Partners. "IT has become a major cost center for companies. IT governance methodologies attempt to put a framework in place that captures and consolidates meaningful information from the working teams in order to quantify the urgency and value of each project to the organization, gather more detailed cost projections, and prioritize projects based upon that information."

Language Lesson

Put simply, IT governance applies a common language to an organization to ensure that all departments are on the same page, which is particularly crucial for organizations that need to comply with regulations such as HIPAA, FISMA, GLBA, and others. The complexities of both IT architectures and the regulations that surround them demand structure, and the lack of governance can leave IT organizations and the executives who interact with them in a rough spot. "IT without a common governance framework is like running a car factory where nobody knows whether English or metric measurements are being used," says Jonathan Feldman, IT services director for the City of Asheville, N.C.

A commitment to governance procedures doesn't necessarily mean locking in to a rigid structure that doesn't mesh with your organization's current environment. Frameworks such as COBIT (Control Objectives for Information and related Technology), ITIL (IT Infrastructure Library), and ITSM (IT Service Management) are designed to not only increase order in your current IT organization but also ensure that you consistently take the right path.

From a birds-eye view, these concepts can appear confusing and convoluted, but they can infuse a wealth of real-world tangible benefits. Brian Cleary, vice president of products and marketing at Aveksa (www .aveksa.com), notes that these frameworks can provide a good baseline for IT risk management, for example.

"COBIT points out the prescriptive requirements for IT business controls such as segregation of duty requirements that ensure that a person's access rights don't create the possibility for fraud in a business transaction. With so much of business today being operationalized through technology and how quickly an IT risk can materialize

into a substantial business loss, having the proper IT controls in place is critical for business assurance as well as meeting regulatory and industry mandate requirements," Cleary says.

Governance structures also work to create better visibility across IT organizations, notes Majid Iqbal, a director in the Technology Consulting practice at PricewaterhouseCoopers, explaining that COBIT and ITIL illuminate the flow of business by showing the actual value delivered to customers in one direction and the acceptable costs and risks in another direction.

"With greater visibility comes better control," Iqbal says. "With better control comes the confidence to more dynamically allocate resources, to drive complex or large changes, and to commit higher levels of performance without adding avoidable and unacceptable risks, such as noncompliance, poor quality, unrecoverable costs, or major failures."

Create The Cast

A core idea behind governance is the need for more involvement in IT decisions by personnel outside of the IT organization. Although this might sound like a recipe for disaster to IT managers unfamiliar with governance, these tried-and-true frameworks effectively create an atmosphere that thrives on openness. And, like it or not, these methods are now practically unavoidable for organizations bound to comply with regulations.

"With data privacy concerns on the rise, it's becoming more essential than ever for every branch of a given organization—whether it's legal, human resources, marketing, or management—to be aware of the risks and liabilities associated with its IT operations. This goes for companies of

Governance Guidelines

Implementing an IT governance framework is no small undertaking, but taking smart steps can make the entire process easier and help to ensure overall success. Kriss Poll, principal at Innovar Partners, offers the following tips for governance implementation.

- Recognize that a framework is just a guide, not the complete answer.
- Include cross-functional people in IT governance development.
- Develop a steering team that includes business personnel, not just IT people.
- Establish clear goals: What are you trying to accomplish and why? How will you measure projects and success?
- Recognize that a framework needs to fit the company culture.
- Over-communicate every step along the way: Question why you're doing this, get feedback, and genuinely listen to the feedback.
- Continue to learn and evolve after the implementation; this is not a one-time step.

Key Points

- IT governance frameworks such as COBIT and ITIL work to create a common language among all primary departments in an organization to ensure compliance, security, and good decision-making.
- All enterprise departments, including IT, upper management, legal, human resources, and marketing, must play a part in governance to minimize risks associated with IT operations.
- Data systems need to be regularly audited to ensure that every branch in an organization has visibility into the IT infrastructure to determine if corrections are needed.

all types and sizes. The consequences of data breaches have become far more severe and unforgiving in recent years," says Ron Whitworth, associate with Sullivan & Worcester.

He adds that there should be consistent open communication between IT managers, senior management, operations, and legal personnel so that the entire organization has a full grasp of applicable laws and that IT systems can comply with the requirements of those laws. Further, he recommends that organizations regularly audit their data systems so that each branch has visibility into the IT infrastructure and data control processes. From there, they can determine whether corrections are necessary to ensure that the appropriate preventive, detective, and corrective controls are in place to comply with regulations and meet security challenges.

"Being diligent with this process also greatly improves the organization's ability to quickly and effectively address security breaches. With technology evolving so rapidly and regulation increasing exponentially both at the federal and state level, the ability to respond in a timely manner to IT security requirements is a necessity," Whitworth says.

Beware Of Resistance

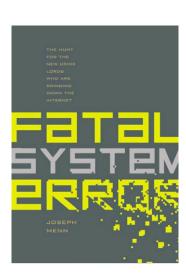
PricewaterhouseCoopers' Iqbal warns that policy resistance can creep into an organization that implements governance. He points to the example of an organization in which a business management system based on a proven industry framework was combined with a best-in-class application with sophisticated functions to reduce costs and risk in large-scale infrastructure projects.

"Senior leadership enacted policies that mandated the use of the system for all projects, with no exceptions. Guess what happened? The very opposite of what was desired, as most managers for various reasons either circumvented, ignored, resisted, or superficially used the system to comply with the mandate, leading to diminished quality of information, avoidable waste, and less-effective practices in project management. . . . Without a well-designed change management program, IT governance can be counter-productive," he says.

Innovar's Poll adds that IT governance has a bad reputation due to frameworks being run by people who do not understand IT. As a result, it can create the perception of a bureaucratic obstacle to getting work done. Further, she says that another frequent challenge with IT governance occurs when it isn't "visibly" sponsored by senior leadership. To meet with success, upper management needs to be vocal about the governance effort by using its information to make decisions, explaining its importance to the organization, and supporting key mid-managers who run it.

DATA CENTER MANAGEMENT

BOOK REVIEW



Cybercrime Investigated

Fatal System Error: The Hunt For The New Crime Lords Who Are Bringing Down The Internet

Author: Joseph Menn Publisher: PublicAffairs Price: \$25.95 Format: Hardcover, 304 pages

by Kurt Marko

HARDLY A MONTH GOES BY without news of a major cybercrime, with Google's accusation of Chinese government-sponsored hacking being just one recent and visible example.

Yet the stories often begin and end with an incident's initial discovery, quickly fading from the headlines as investigations turn cold and the perpetrators slip away into the Internet ether. Seldom are the criminal masterminds, typically known only by their online pseudonyms, positively identified or brought to justice. In the rare event of successful apprehension and prosecution, a detailed accounting of how the crimes unfolded and the full extent of the perpetrators and how they were tracked down is seldom publicized. Joseph Menn's new book "Fatal System Error" is an exhaustive exception to this cone of silence.

Menn, a seasoned investigative technology reporter, has written a two-part narrative, reading like a real-life spy thriller, that opens by describing an extortionist DDoS (distributed denial of service) attack on Costa Rican

It's easy for those who closely follow IT to become desensitized to news of the latest cyber attack without appreciating its severity, scope, and consequences.

online casinos. Part one describes the Herculean efforts the casino's hacker-for-hire takes to fend off the attacks and keep the sites in business. Part two is a whodunit that traces the attacks to a maze of Russian crime rings and hacker networks.

Hacker Hero

The book starts when hacker hero Barrett Lyon is hired to fight increasingly aggressive attacks bringing down several online gambling sites. Although Lyon has seen this sort of thing many times before, what makes these different is their scale, using thousands of compromised zombie bots to choke each site with meaningless Web requests. The other distinguishing characteristic is extortion—these aren't random drive-by hacking excursions, but a means of squeezing money from companies losing thousands of dollars every day their site is down.

Lyon succeeds in diffusing the cyber pummeling, and his forensic sleuthing traces the source back to Russian carders trading stolen identities on Web forums and IRC channels. Yet he hits a roadblock because he has no authority to question or arrest anyone. That's when he crosses paths with the book's other main character, British detective Andy Crocker. Crocker gradually uncovers the myriad Russian police and intelligence services, wins a few key allies along the way through perseverance, and manages to piece together a network of cyber criminals and corrupt ISPs, some safely ensconced in breakaway Soviet republics. He discovers these gangs involved in a hat trick of cybercrimes: spam, DDoS, and online bank fraud.

After describing the takedown and trial of a few low-level Russian hackers, Menn

wraps up with an anticlimactic couple of chapters reiterating the seriousness of cybercrime in online commerce, decrying the U.S. government's largely lackadaisical response, and outlining some technical and policy solutions that would improve the situation.

Deconstruction

It's easy for those who closely follow IT to become desensitized to news of the latest cyber attack without appreciating or internalizing its severity, scope, and consequences. Menn's deconstruction of an especially sophisticated set of attacks, the victim's countermeasures, and eventual criminal investigation of the web of attackers is a valuable wake-up call for IT pros that should serve to catalyze redoubled efforts to improve cybersecurity.

KEY CONCEPTS

- "Fatal System Error" provides a narrative account, written in the mold of a spy thriller, of some of the earliest botnet-enabled DDoS attacks on online businesses, including the criminal elements behind them and the countermeasures deployed by some businesses unwilling to submit to extortion.
- The book details the lengthy criminal investigation that tracked these attacks back to
 Russia and its former satellites, the underground online networks that coordinated and controlled the attacks, and some of the criminal conspirators behind them, offering perhaps the most detailed account yet of one of the first successful investigations and prosecutions of Russian-based cyber criminals.

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